Further Rise in Steel Prices Thought Partly Due to Rail Congestion

Lumber Advance Spreads to Other Centers—Railway Construction in Past Two Years Least Since Civil War, Though Earnings Are Largest Since 1906

IF THE RAILROADS find themselves this year in a position to carry out the construction needed to expand their facilities, the benefit to contractors will be double. Not only will immediate work be undertaken, but the facilities provided will make possible, and indeed will be essential to further commercial development of the country, which is at the bottom of all new construction work.

The ability of the railroads to undertake improvements will soon be in doubt no longer. For the first time since 1906 they have earned a fair sum on their investment. According to the *Railway Age Gazette*, the net operating income of all the railroads for 1916 will probably exceed 6 per cent on the total investment in them, and constitute a new record. This gain has been made in spite of heavy increases in taxes and operating expenses.

That improved facilities are needed is demonstrated by the inability of the roads to handle the present volume of business. Even with a short-crop year, the worst car shortage of recent times has occurred. Much of the severity of these conditions is admittedly due to poor terminal facilities and inadequate trackage.

That little has been done so far to relieve these conditions is shown by further statistics from the above source. In the 5-year period prior to 1907, the last prosperous one for the railroads, new construction averaged 4700 miles a year. In the past five years it has averaged less than 2000 miles, and was 933 miles in 1915 and 1098 miles in 1916—the lowest figures since the Civil War. In the five-year period ended with 1906, purchases of freight cars averaged annually 218,000, while the corresponding average for the five years just past is 148,000. The number of freight cars bought last year was 170,000, or 77 per cent of the earlier five-year average, and the number of locomotives and passenger cars ordered is in about the same ratio to the figures for the period ended with 1906. However, the carrying capacity of the average freight car has almost doubled in the last decade, as has the hauling capacity of the average locomotive. On this basis the purchases for the later period equal or exceed those of the earlier one in providing freight-handling capacity. On the other hand, the miles of new line constructed last year constitute only 23 per cent of the annual rate of new building prior to 1907. A mile of track is as short to-day as it was in 1906.

It appears from these figures that while heavy foreign orders for railway equipment may have raised prices and barred the roads from purchasing as many new cars as might have been expected, they are yet many times further advanced toward meeting present requirements in the matter of equipment than they are in the matter of trackage. The uncertainty of the present wage dispute has doubtless accounted for much of the hesitancy about new construction, which is further evidenced by the fact that at present there are but 1060 miles of new line being built, 2126 miles being surveyed, and 727 miles projected. However, if even the 2853 miles of new line contemplated were placed under construction in 1917, with terminal and other facilities in proportion, it would make a great difference in the contracting field. If the wage dispute is properly settled, and especially if the end of the war comes, and is followed by price reductions, it is safe to argue that further equipment buying by the railroads will be accompanied by a proportionate volume of railroad construction of all classes.

Iron and Steel

While price advances have continued, the most recent of those announced during the past month are attributable, according to the *Iron Age*, to the fact that leading producers are sold up for long periods in advance, and to the difficulties attending the present rail congestion. Embargoes on iron and steel products have been ordered right and left. Deliveries of finished steel, pig iron, coal and coke have been seriously affected, decreasing production and causing a gain in unfilled orders which practically amounts at present to an additional unnecessary handicap on the industry. A further evidence of the permanent nature of the increase in the production costs of this industry is furnished by the statement of the U. S. Geological Survey that the 1916 shipments of iron ore, amounting to 75,500,000 gross tons, sold for practically $179,000,000. This output, which broke all previous records, exceeding that of 1915 by 36 per cent, sold at an average price 32 per cent greater than that realized from the ore shipped in 1915.

Pig Iron.—The production of pig iron in 1916 also made a new record, according to the records of the *Iron Age*, with a total of 39,450,000 gross tons, compared with 29,916,000 tons in 1915. The price advances noted occurred mostly during the first half of the month, and it is thought that the scramble for pig iron which produced most of the extraordinary gain in values is over. Prices per ton recently quoted are as follows:

No. 2X, Philadelphia	$29.50
No. 2, Birmingham	23.00
No. 2 Furnace, Chicago	30.00
Basic, Valley Furnace	30.00

Steel Products.—Prices of various steel products given below are per 100 lb. at the mill or warehouse:

	Immediate Delivery	Future Delivery	Warehouse
Pittsburgh:			
Structural material	....	$3.10	....
Plates	$4.50	4.00	....
Steel bars	3.25	3.00	....
Iron bars	....	3.25	....
Rivets	....	4.25	....
New York:			
Structural material	3.669	3.419	$3.95
Plates	5.169	4.169	5.00
Steel bars	3.669	3.169	3.85
Iron bars	....	3.169	3.50
Chicago:			
Structural material	3.439	3.289	3.70
Plates	4.689	3.789	4.35
Steel bars	3.439	3.189	3.60
Iron bars	....	3.00	3.60
Rivets	....	4.15	....

Sheets.—Price advances have continued, and No. 28 gage black and galvanized sheets have recently been quoted at Pittsburgh and Chicago at the following prices per 100 lb.:

	Black	Galvanized
Pittsburgh	$4.25	$6.75
Chicago	4.50	6.50

Rails.—Prices per ton, f.o.b. the points named continue as follows:

	Open Hearth	Bessemer
Pittsburgh	$40.00	$38.00
Chicago	40.00	38.00

Cast-Iron Pipe.—A further considerable advance in the price of cast-iron pipe has been recorded. Prices in carload lots per ton are now quoted as follows:

	Class A and Gas Pipe	Class B and Heavier
New York	$42.50	$41.50
Chicago	42.50	41.50
Birmingham	37.00	36.00

Wrought Pipe.—Both black and galvanized pipe have again advanced. Prices in carload lots for lap-welded steel and iron pipe, plain ends, Pittsburgh, have recently been quoted as follows:

	Black	Galvanized
Steel pipe, 2½ to 6 in.	$80.00	$105.00
Iron pipe, 2½ to 6 in.	102.00	128.00

Price advances are indicated by **heavy type**; declines by *italics*.

Concrete Materials

Cement.—After the general advance in November, cement prices have remained practically stationary. The industry undoubtedly had a record year in 1916 so far as production is concerned, it being estimated that the total output for the year will be found to exceed 100,000,000 barrels. The prediction has been made that the top has not yet been reached either in consumption or in prices. Those quoted below are per barrel, f.o.b. the points named, to contractors, without sacks:

Boston	$1.85	Duluth	$1.81
New York	1.52	St. Paul	1.83
Pittsburgh	1.56	Cedar Rapids	1.79
Cleveland	1.69	Kansas City	1.64
Atlanta	1.62	Denver	2.00
Cincinnati	1.70	Houston	1.65
Detroit	1.65	Salt Lake City	2.37
Chicago	1.56	Phoenix	2.85
Jacksonville	1.70	Seattle	2.00
New Orleans	1.88	Los Angeles	2.00
Memphis	1.79		

Sand.—Prices quoted below are in large lots to contractors, f.o.b. the points named:

Boston	$0.80	Kansas City	$0.60
New York	0.50	Houston	1.00
Atlanta	*0.55	Denver	0.95
Cincinnati	*0.75	Salt Lake City	0.70
Chicago	1.15	Phoenix	1.00
New Orleans	*1.00*	Seattle	**0.75**
St. Paul	**0.50*	Los Angeles	0.35

*Price per ton.

Gravel and Crushed Rock.—Prices for the new year on crushed rock in New York City are expected to be announced shortly and will probably be those indicated below. The prices given are per cubic yard to contractors, in large lots, f.o.b. the points named:

	Gravel		Crushed Rock	
	¾-in.	1½-in.	¾-in.	1½-in.
Boston	*$1.20	*$1.10	$1.25	$1.25
New York	....	1.10	*1.20*	*1.10*
Atlanta	*1.40	*1.20	*1.15	*1.10
Cincinnati	*0.75	*0.75	*0.90	*0.90
Chicago	1.15	1.15	1.00	1.00
New Orleans	**1.70**	*1.45*	**2.25**	**2.25**
St. Paul	1.60	**1.00**	1.55	1.45
Kansas City	2.25	2.00	1.35	1.25
Houston	1.85	1.75	1.85	1.75
Denver	1.35	1.35	1.35	1.35
Salt Lake City	0.70	0.70	0.70	0.70
Phoenix	2.00	1.50	1.75	1.75
Seattle	0.75	**0.75**	1.50	1.50
Los Angeles	0.85	0.85	1.00	0.95

*Price per ton.

Brick and Paving Material

Brick.—Brick advanced during the month at several more of the points quoted, while at one city which scored an advance during November a decline is noted. Prices below are per 1000, wholesale, f.o.b. the points named:

	Common	Paving
Boston	$11.50	**$22.50**
New York	**9.00**	....
Atlanta	7.50	....
Cincinnati	7.50	21.00
New Orleans	**7.05**	**27.00**
St. Paul	*7.95*	***1.06**
Kansas City	8.00	20.00
Houston	10.00	26.00
Denver	6.50	14.00
Salt Lake City	10.00	....
Phoenix	**10.00**	....
Seattle	*6.50*	28.75
Los Angeles	5.50	23.50

*Price per square yard.

Stone and Wood Paving Blocks.—Wood blocks have advanced at four points. Prices given below are to contractors per square yard f.o.b. the points named:

	Standard Stone Block	4-Inch Wood Block
Boston	$2.45	**$2.04**
New York	2.20	2.00
Atlanta	1.50	1.40
Cincinnati	*70.00	*32.00
New Orleans	*60.00	**1.58**
St. Paul	1.75	**2.25**
Kansas City	2.00	**1.60**
Denver	....	1.86
Seattle	....	1.35

*Price per 1000.

Asphalt.—Contract prices governing the sale of the asphalts listed below for the year 1917 are per ton, f.o.b. lighters or cars, Maurer, N. J.:

Kind	Less than car lots	Car lots, less than 250 tons	Car lots, 250 to 1000 tons	Car lots, more than 1000 tons
Refined Trinidad Lake Asphalt	$20.00	$18.50	$18.00	$17.50
Refined Bermudez Lake Asphalt	27.50	26.00	25.50	25.00

Lumber

The price advance begun in November on the Pacific Coast, in the Chicago territory and in the East, has, on the whole, been continued and extended. The car shortage has severely handicapped the Pacific Coast mills in shipping fir to the central states and the Atlantic Coast, and has also made it difficult to secure deliveries in the East from the Southern mills sawing yellow pine. Further price advances in this industry would be only natural. The National Lumber Manufacturers' Association estimates that lumber prices during the past year will average almost 10 per cent under those of 1906, in spite of the fact that prices for most other commodities have broken all records made since gold payments were resumed after the Civil War.

Yellow Pine.—Wholesale prices per 1000 ft. B.M., f.o.b. the points named, have recently been quoted as follows:

	1 x 10 Rough	2 x 10 D & M	8 x 8 20	12 x 12 20
Boston	....	**$43.00**	**$42.00**	**$48.00**
New York	**$24.00**	**25.00**	**30.00**	**38.00**
Atlanta	25.00	25.00	20.00	23.00
Cincinnati	32.00	29.00	26.00	29.75
Chicago	25.00	22.00	25.50	29.00
New Orleans	*24.00*	*24.00*	*26.00*	*26.00*
St. Paul	....	**28.00**	**32.00**	*34.00*
Kansas City	35.50	24.50	*32.00*	24.50
Houston	22.50	22.50	22.50	22.50

Fir.—Wholesale prices per 1000 ft. B.M., f.o.b. the points named, are as follows:

	1 x 10 Rough	2 x 10 D & M	8 x 8 20	12 x 12 20
Boston	*$45.00*	**$39.00**	$35.00	*$40.00*
Chicago	....	....	32.25	32.25
St. Paul	....	**25.00**	....	*34.00*
Kansas City	**28.00**	....	**28.00**	**28.00**
Denver	....	21.00	**23.00**	**23.50**
Salt Lake City	....	**26.50**	**27.00**	**27.00**
Phoenix	....	37.50	37.50	....
*Seattle	15.50	15.50	15.50	15.50
*Los Angeles	21.00	21.00	21.00	21.00

*Base price.

Spruce and Hemlock.—Recent prices, wholesale, per 1000 ft., B.M., f.o.b. the points named, are as follows:

	Hemlock		Spruce
	1 x 10 Rough	8 x 8 20	8 x 8 20
Boston	....	....	$36.00
Chicago	$21.00	$23.00	....
St. Paul	**25.00**	**30.00**	30.00
Kansas City	**28.00**	**28.00**	....
*Seattle	15.50	15.50	15.50
*Los Angeles	20.00	20.00	....

*Base price.

Sewer Pipe and Tile

Sewer Pipe—A general advance is noted at a number of points, while a decline in some sizes is reported from New Orleans. Prices quoted below are per lineal foot in large lots to contractors, f.o.b. the points named:

	3-in.	5-in.	8-in.	12-in.	24-in.	36-in.
Boston	8.4	12.6	19.6	37.8	126	317.75
New York	**8.1**	**12.15**	**18.9**	**36.45**	**121.5**	**307.5**
Cincinnati	7.2	10.8	16.8	32.4	130.5	338.25
Chicago	7.5	**12**	**17.5**	**33.75**	**135**	350
New Orleans	4	6.25	*11.25*	*21.25*	*81.25*	**375**
St. Paul	**8**	**11.5**	**16**	**30**	**105**	300
Kansas City	8	11	15	27	**115**	240
Houston	5.5	9.5	18.3	35.5	130	370
Denver	6	....	20.25	40	137.5	....
Salt Lake City	8	....	20.5	33.75	112.5	....
Phoenix	7.5	12.5	22.5	37.5	125	300
Seattle	7.5	....	22.5	41.25	175	....
Los Angeles	5.5	9	16	26.5	100	....

Hollow Building Tile.—No further advance is noted in the New York market, although the fuel situation has not been greatly relieved. Prices quoted below are for ex-

Price advances are indicated by **heavy type**; declines by *italics*.

terior tile, per 1000, f.o.b. the points named, in large lots to contractors:

	4x12x12	8x12x12	12x12x12
Boston	$95.00	$150.00	$175.00
Perth Amboy	82.50	140.00	206.00
Atlanta	50.00	100.00	140.00
Cincinnati	65.00	85.00	110.00
Chicago	54.00	101.25	140.00
New Orleans	*75.00*	*120.00*	*150.00*
St. Paul	*48.00*	**102.00**	*125.00*
Kansas City	46.75	90.00	126.00
Houston	70.00	115.00	....
Denver	100.00	175.00	....
Salt Lake City	60.00	95.00	135.00
Phoenix	100.00	175.00	....
Seattle	**55.00**	*95.00*	*150.00*
Los Angeles	40.00	75.00	....

Miscellaneous

Manila Rope.—Rope prices are apparently on the rise, the three advances noted last month having been followed by a number of others, all considerable. The prices quoted are per pound, in full coils, to contractors, for ¾-in., 1-in. and 1½-in. rope, local delivery at the points named:

Boston	**$0.225**	Kansas City	$0.1975
New York	**0.225**	Houston	0.195
Atlanta	0.22	Denver	**0.24**
Cincinnati	0.25	Salt Lake City	0.23
Chicago	**0.20**	Phoenix	0.30
New Orleans	**0.22**	Seattle	**0.22**
St. Paul	0.22	Los Angeles	**0.18**

Oil.—Gasoline has again been advancing at central and far Western points. Several other changes are noted. Prices quoted below are to contractors, per barrel of 50 gal., at the points named:

	Fuel	Black	Red Engine	Steam Cylinder	Gasoline
Boston	$4.50	$7.50	$12.50	$18.75	$11.50
New York	....	7.50	14.00	17.50	11.00
Atlanta	6.00	6.00	8.75	15.00	11.50
Cincinnati	2.75	5.00	8.00	15.00	10.00
Chicago	**2.10**	4.50	**9.25**	16.50	**8.75**
New Orleans	1.85	5.50	10.50	**20.00**	9.25
St. Paul	4.25	7.00	*7.75*	16.00	**9.25**
Kansas City	**6.20**	3.55	**9.60**	16.35	**8.40**
Houston	*1.03*	4.50	9.00	18.00	9.00
Denver	*2.50*	*6.75*	*12.00*	*21.00*	10.00
Phoenix	**1.95**	10.00	13.00	23.50	12.25
Seattle	*1.35*	6.25	*9.50*	20.00	**10.25**
Los Angeles	*1.15*	7.25	10.25	20.00	**9.50**

Dynamite.—Prices quoted below are per 100 lb. for the grades named, to contractors, at the points indicated:

	20% Low Freezing	40% Gelatine	60% Gelatine	80% Gelatine
Boston	*$16.00*	*$18.00*	*$20.50*	*$30.50*
New York	....	22.00	27.00	....
Atlanta	17.00	20.00	22.50	....
Cincinnati	14.75	16.75	19.25	29.50
Chicago	13.50	**22.75**	**28.25**	**33.25**
New Orleans	16.25	18.25	20.75	....
St. Paul	17.00	20.78	25.75	29.50
Kansas City	15.00	20.75	25.75	29.75
Houston	....	19.00	21.50	....
Denver	14.00	19.25	23.25	28.75
Salt Lake City	*11.75*	17.50	**22.50**	*26.25*
Phoenix	....	**25.50**	....	....
Seattle	**11.50**	**18.25**	**22.25**	**27.75**
Los Angeles	17.00	25.00	30.00	....

Copper.—The U. S. Geological Survey has also announced that the production of copper during 1916 will be found to have surpassed all previous records, the 964,000 tons produced having a value of more than double the output for last year at the high average price of 27 cents a pound. Electrolytic, spot, New York, has recently been selling at from 29 to 29½ cents, with the market somewhat dull and quotations nominal. The peace talk during the month has effected a considerable reduction in the price of this metal.

Lead.—The lead output of the United States during the past year is estimated at 622,000 tons, a 10 per cent increase as compared with 1915. The value of this output, however, taking average prices for the two years, increased 50 per cent. Spot lead, New York, is now quoted at 7½ cents a pound, an advance of ¼ cent over quotations prevailing at the beginning of December.

Price advances are indicated by **heavy type**; declines by *italics*.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK.

Lee, Mass.—Cortland F. Bishop, of Lenox, reported to have purchased plant of Berkshire Water Co., Lee, and plans the construction of 2 reservoirs to supply both Lee and Lenox; is also considering purchasing plant of Lenox Water Co., (furnishing the company with its water supply), or consolidating the two companies.

Worcester, Mass.—State legislature will be petitioned by city council for permission to borrow $500,000 from time to time to be used for enlargement of filter beds.

Canton, N. Y.—Chas. E. Perry, engr., 36 State St., Albany, writes that it is proposed to secure new source of supply; work includes 2400 tons c.-i. pipe and 2,000,000-gal. reservoir; cost $180,000.

Fredonia, N. Y.—F. K. Wing of Buffalo has completed plans for proposed sewage disposal plant and trunk sewers. H. C. Drake, pres. Bd. Trustees.

New York, N. Y.—American Waterworks & Electric Co., Inc., 20-year 5 per cent gold bonds will be sold Jan. 20 by Bankers Trust Co., 16 Wall St., New York.

Ogdensburg, N. Y.—Election soon to be held to vote $55,000 bonds for developing new source of water supply from branch of Walkill River; reservoir capacity to be 300,000,000 gal. R. J. Dolan, mayor; J. B. Rider, engr., 29 Broadway, New York, N. Y.

Camden, N. J.—Victor Talking Machine Co. plans the construction of a 2-story 17 x 19-ft. brick filter plant. Ballinger & Perrot, archts., Philadelphia.

Jersey City, N. J.—City comrs. plan constructing a filtration plant on land recently purchased at Boonton.

Newark, N. J.—Bd. Wks. reported considering installation of water meters.

North Jersey Dist. Water Supply Comn. (Laurent J. Tonnele, chmn.) will hold a hearing Jan. 19 to take action on proposition for new water supply or an additional water supply for Newark, Paterson and other municipalities who want to enter into the agreement.

Perth Amboy, N. J.—Thomas Grieve, supt. waterworks, has reported to the Water Comrs. recommending the installation of a new low lift pumping equipment, electric pumping station, and additional filtering basins, improvements exclusive of filtering beds; cost about $50,000.

Princeton, N. J.—Borough considering construction of sewage disposal plant.

Rahway, N. J.—Sanitary Comn. voted to recommend to Council that City Clk. be instructed to communicate with other municipalities which are interested in joining with Rahway in constructing trunk-line sewer and sewage disposal plant; estimated cost, $625,000; and asking them to state whether or not they will join in the plan.

Somerville, N. J.—Gravity Water Supply Co. has asked Bd. Freeholders for permission to lay a water pipe line and install hydrants, etc., along several roads in the county.

West Orange, N. J.—Town Council reported to have adopted new contract with Commonwealth Water Co.; improvements contemplated by company include a 2,000,000-gal. reservoir to supply mountain section; also a standpipe and pumping station; present mains to be replaced with larger pipe throughout central and southern section of town; a 16-in. main from reservoir through Mt. Pleasant Ave. to Valley road, to connect with main feed line for low service; mains of 10.8 and 6-in. pipe from artery on Valley road through the various cross streets. C. O. Woodruff (chmn. water comn.

Chester, Pa.—Plans being prepared by Chester Water Co. for reservoir and water system; cost about $25,000. W. B. Chadwick, supt.

Easton, Pa.—Hill & Ferguson, 100 William St., New York, N. Y., engaged by city to prepare preliminary plans for extending and enlarging sewer system.

Franklin, Pa.—It is proposed to construct trunk sewer 2900 ft. 18 to 24-in. pipe; cost $10,000. John McK. Snow, city engr.

Philadelphia, Pa.—Survey Bureau (Chester E. Albright, ch.), plans construction of new main sewers; cost $1,000,000. Contracts for work will be let early in 1917. Plans under way for installation of sewage treatment plant on sites recently condemned for this purpose in northeast and southwest section of city.

Reading, Pa.—City has purchased Glenside Water Co. plant at Glenside for $32,000, to be used as an addition to the Municipal Waterworks.

Huntington, W. Va.—City Comrs. considering construction of 10th St. trunk sewer; to cost $65,000.

Columbus, Ga.—Mayor John C. Cook, in his annual message to Council, recommends bond election of $60,000 for sewer construction over Cook's Branch in the northern part of city.

Savannah, Ga.—It will cost $300,000 to rehabilitate and increase waterworks according to report of E. R. Conant, ch. engr.; bond issue may be asked to raise necessary funds; drilling a 12-in. well to a depth of 1500 ft. recommended for present.

St. Petersburg, Fla.—Election will be held on the question of issuing $30,000 bonds for septic sewerage system.

Talladega, Ala.—Election will be held on the question of issuing $200,000 bonds to be used for Municipal Waterworks.

Crystal Springs, Miss.—Question of sewer system being considered by town; cost, about $25,000.

Nashville, Tenn.—State legislature will be petitioned to authorize city to issue at least $1,000,000 bonds for extending water distribution system of city. W. W. Southgate, city engr.

Jackson, Ky.—Reported waterworks will be improved, to cost $50,000, during 1917. An increase in the capital stock of the company and a reservoir back of the town being considered.

Salyersville, Ky.—J. M. Patrick and others organizing waterworks company here, who will begin the construction of a sewer system to cost $25,000.

East Youngstown, O.—Election will be held by village this month to issue $45,000 additonal bonds for completing waterworks now under construction.

Bellefontaine, O.—W. H. Sherman Co., Toledo, has completed and presented to Bd. Pub. Service report on enlargement and improvement of waterworks and recommend doubling water supply system, including 6 new wells, build concrete receiving basin, 3,000,000-gal. vertical pumping engine, an air compressor and enlargement of west station building, etc.

Cleveland, O.—City Finance Dept. (Clarence J. Neal, dir.) will early in January sell bonds to be used as follows: $600,000 waterworks, $500,000 sewer, and $1,000,000 paving.

Pioneer, O.—L. A. Boulay Co., Nicholas Bldg., Toledo, have been engaged to prepare plans for constructing sewers in several streets.

Youngstown, O.—Sewer bonds for $2,000; street improvement bonds for $10,700, and bridge bonds for $120,000 will be sold Jan. 22, by J. R. Edwards, city aud., West Boardman St.

Winchester, O.—Waterworks bonds for $18,000, will be sold Jan. 29, by Geo. M. Herbs, vil. clk.

Indianapolis, Ind.—State Legislature will be asked for permission to issue $1,500,000 bonds to be used for installation of sewage disposal plants. B. J. T. Jeup, city engr.

Albion, Mich.—It is proposed to construct 400 ft. 8-in. and 3300 ft. 15-in. vitr. pipe sanitary sewers; cost $9,000. A. L. Sloman, city mgr.

Fowlerville, Mich.—City considering the construction of a sanitary sewer system including 8, 10 and 12-in. pipe, a total of 5 miles. Imhoff tank; total cost about $30,000. C. W. Hubbell, 2348 Penobscot Bldg., Detroit.

Northville, Mich.—Election will be held in spring to vote on question of constructing sewer system, 9 miles of 8 to 15-in. pipe and Imhoff disposal plant. C. W. Hubbell, engr., 2348 Penobscot Bldg., Detroit.

Pontiac, Mich.—Plans being prepared for constructing an outfall sewer extension including Imhoff tank and sprinkling filters. C. W. Hubbell, engr., Penobscot Bldg., Detroit.

St. Paul, Minn.—City Council passed order for relief sewer on Summit Ave. from Fairview to Hamline Ave.; estimated cost $50,103.

Minot, N. D.—City plans the construction of reinforced concrete reservoir 3,000,000 gal. capacity. F. Bass, engr., 244 Plymouth Bldg., Minneapolis, Minn.

Kansas City, Kan.—City considering the construction of several sewers. Howard Payne, city clk.

McCracken, Kan.—Citizens will vote Jan. 9 to issue $30,000 bonds for waterworks and an electric light plant. L. A. Ryan, city clk.

Utica, Kan.—Election will be held on the question of waterworks construction; cost $20,000.

Winfield, Kan.—City plans constructing 1,750,000 gal. reinforced concrete reservoir.

Omaha, Neb.—City Engineer J. A. Bruce preparing comprehensive plan for sewer system for Greater Omaha; cost, about $2,000,000.

Ronan, Mont.—Surveys and designs have been made by Earl D. Covell, Missoula, for gravity water system with main pressure conduit 4 miles in length, from North Crow Creek to city; as bonded indebtedness of city already is too great to allow additional bonds to be sold except by special act of legislature, it will probably be necessary to grant a company a franchise; cost about $40,000. Sewer system will probably be built by city as soon as water system is assured. Dwight N. Mason, town clk.

Joplin, Mo.—W. B. Kane, engr., City Engineering Dept., has completed plans for new sewer in central section of city, to cost $50,000. J. B. Hodgdon, comr. streets.

St. Joseph, Mo.—Mayor has recommended to City Council a bond issue of $800,000, to be used for new sewers, sewer extensions and erecting workhouse, etc.

Nashville, Ark.—City Council has decided to construct waterworks and sewer systems; cost about $91,000. Winters & Dove, engrs., Ft. Smith.

El Paso, Tex.—Bonds will be sold about Jan. 18 as follows: Disposal plant $100,000, storm sewers $75,000, and civic improvements $255,000. Tom Lea, mayor.

Houston, Tex.—Contract for auxiliary water system will be let early this year, to serve southern section of city; cost, about $100,000. Work includes 7 new wells, pumping plant, 16,000 ft. mains. Address Comr. H. A. Halverton.

Denver, Col.—Van Sant-Houghton Co., Denver, has submitted report to Denver Pub. Utilities Comn. on the new city water system; estimated cost of direct construction at $22,935,878, and for overhead work $4,543,620.

Comanche, Okla.—Proposition for constructing sewer system being discussed by City Council.

Hugo, Okla.—City may install new settling basin for waterworks.

Skiatook, Okla.—City contemplates voting bonds for waterworks improvement.

Morton, Wash.—City Council voted to install gravity water plant. B. J. West, mayor.

Seattle, Wash.—H. W. Carroll, city compt., reports following ordinances introduced in Council: Watermains in portions of Hudson St.; district sewers in West and N. 50th Sts.

Resolution introduced providing for construction of trunk sewer and outfall beginning at a point in the Duwamish River bed and connecting with existing box sewer in east Marginal Way, sewer construction in portions of 39th Ave. authorized. A. H. Dimock, city engr.

Plans submitted to Bd. Pub. Wks. by A. H. Dimock, city engr., for laying water mains and sewers in 40th Ave., North; cost $18,500.

City Utilities Comn. has recommended for passage bill appropriating $10,000 and directing City Engineer to complete plans and estimates for extensions to Cedar River water system that will necessitate an expenditure of about $3,000,000; tentative plans call for acquirement of Swan Lake for storage purposes, construction of second reservoir in Volunteer Park, twin reservoirs in West Seattle and construction of a third Cedar River pipe line of steel and reinforced concrete.

Estacada, Ore.—City Council considering extension of sewer system.

Brawley, Cal.—J. A. Harris, city clk., writes contract will probably be let about Feb. 1 for waterworks improvement, to cost $17,000. Geo. R. Wade, city engr.

Pacoima, Cal.—Tejunga Water & Power Co., Wright & Callender Bldg., Los Angeles, applied to State RR. Comn., San Francisco, for permission to issue $150,000 bonds for making improvements in Big Tejunga Canyon, including additional pipe lines.

Sacramento, Cal.—Frank Miller, city engr., writes that city will vote on bonds for proposed filtration plant. Election not yet called; cost reported to be $4,500,000 to $6,000,000.

San Francisco, Cal.—See "Foundations, Piers and Drains."

Islington, Ont.—E. A. James, 57 Adelaide St., Toronto, preparing plans for waterworks pumping station, trunk feeder and 7 miles of water mains; cost $75,000.

Sault Ste. Marie, Ont.—City considering the construction of storm sewers; cost $35,000. R. G. Campbell, city clk.

BIDS DESIRED.

Boston, Mass.—Until Jan. 9 (readvertisement), by Supt. Supply Dept., Room 808, City Hall Annex, for furnishing following supplies to Pub. Wks. Dept. Water Serv., 11,000 lbs. composition castings; 5550 ⅝ to 1-in. water meters, and 2475 tons more or less, 4 to 16-in. pipe, and 150 tons special iron castings.

Brooklyn, N. Y.—Until Jan. 17, by L. H. Pounds, boro. pres., for constructing sewers in portions of Louisianna, Stanley, and Williams Aves.; engineers estimates $191,702 to consist of 2198 ft. reinforced concrete sewer ranging from 102 to 144 in., 3753 ft. pipe sewer from 6 to 24 in., 14,000 cu. yd. embankment, 16,000 ft. piles, 30,000 ft. board meas. sheet piling and wales, 100,000 ft. board measure sheet piling and bracing, 14,000 cu. yd. embankment, 20,000 ft. planking, together with manholes, basins, etc.; security $75,000. In portions of Ave. M; engineers estimate $2,723,265 ft. 42-in. brick sewer together with manholes, basins, pipe sewer, etc.; security, $1,200; sewer basins in portions of 20th Ave., 78th, 68th and other streets, total of engineer's estimate $945; total security $455.

Louisville, Ky.—Until Jan. 12, by Bd. Pub. Wks. (Roger G. McGrath, secy.), for constructing sewers on portions of Fulton and 23rd Sts., and on Osage Ave.

Swanton, O.—Reported desired until Jan. 11, by city, for constructing sewer in Dist. No. 2. H. McKechnie, city engr.

Ft. Worth, Ind.—Until Jan. 9 (change of date), by Bd. Pub. Wks. (C. A. Beuret, secy.), City Hall, for furnishing 300 tons 6 to 12-in. c.-i. pipe; certified check for 2½ per cent to accompany each bid.

Alton, Ill.—Reported desired, until Jan. 15, by Bd. Local Imp. (Bart Kennedy, city clk.), for constructing trunk sewer in Shield Branch Sewer Dist. P. H. Lendon, city engr.

Park Ridge, Ill.—Until Jan. 16, by Bd. Local Imp. (Albert Verity, pres.), for constructing connected system of sewers, water mains, house drains, and water service pipes, together with manholes, catch basins, hydraulic valves in portions of Elm St., Greenwood Ave., Chester Ave., Grace St. and other streets; work includes from 4 to 12 in. c. i. pipe, about 8720 lin. ft.

Dows, Ia.—Until Jan. 23, W. F. Wedekin, town clk., for constructing sewers and disposal plant; work includes Sec. A about 49,323 lin. ft., from 6 to 12-in. sewers; Sec. B, about 1262 lin. ft., 8 to 15-in. sewer outlet and cast-iron pipe sewer; certified check for $1,000 on Sec. A, and $500 on Sec. B, to accompany each bid; plans may be had from M. Tschirgi & Sons, engrs., Cedar Rapids, upon payment of $5.

Muscatine, Ia.—Reported desired until, Jan. 18, for constructing sewers. Address, C. H. Young, engr., City Hall.

Albany, Mo.—Reported desired until Jan. 15, by R. M. Fugett, chmn. Bd. Alderman, for constructing joint district sewers and disposal plant and lateral sewers in Dists. 2, 3, 6 and 8; work includes 22,734 ft. of 6 to 16-ft. trenching and back filling, 22,722 ft. of 6 to 15-in. c.-i. pipe, 68 manholes, flushtanks, septic tank, etc. E. T. Archer & Co., engrs., 514 New England Bldg., Kansas City.

Cordell, Okla.—Until Jan. 15, for constructing main and sub-main sanitary sewers and sewage disposal plant; plans may be obtained from Benham Eng. Co., 13th floor, Colcord Bldg., Oklahoma City, upon payment of $5; certified check for $2,000 payable to R. L. Harvey, mayor, must accompany each bid.

Smiths Falls, Ont.—Until Jan. 15, by city for constructing 2700 ft. water mains and sewers; cost about $16,000.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Erie, Pa.**—Contract reported awarded by Street Director Kinney to L. V. Metz & Jacob Roth, of Erie, for storm water sewers to drain Parade and Division St. Subways, at $19,461, and 42-in. sanitary sewer in Parade St. at $2,642.

Louisville, Ky.—Following are lowest bids opened by Bd. Pub. Wks. for sewers: Preston St., Henry Bickel Co., 443 Garden St., $21,800; Osage and 23d Sts., Robert Gregg, $10,800.

★**Oshkosh, Wis.**—Contract awarded by city to J. Rasmussen & Sons Co., Oshkosh, for submerged crib and intake pipe water system at about $35,329.

St. Paul, Minn.—Following bids opened Dec. 18 by Dept. Pub. Utilities for 1526 tons c. i. water pipe (price given per ton): (a) 6 to 16 in. pipe, (b) 3-in. pipe: National Cast Iron Pipe Co., Hammond-Byrd Iron Co., sales agts., Brown-Marks Bldg., Birmingham, Ala., (a) $41.66 (b) $54.66; U. S. Cast Iron Pipe Foundry Co., Burlington, N. J., (a) $41.80 (b) $51.80; American Cast Iron Pipe Co., 29th Ave. and 16th St., Birmingham, Ala., (a) $42.75 (b) $52.75.

★**Bozeman, Mont.**—Following are the bids received by City Council for new reservoir and pipe construction: Monarch Constr. Co., Bozeman (awarded contract), at $27,781; McLaughlin & O'Neil, Livingston, $28,456; Security Bridge Co., Billings, $30,474; Lindstrom & Oren, Billings, $32,065.

★**Wetumka, Okla.**—Contract awarded by city to N. S. Sherman Machine & Iron Wks., 18-32 E. Main St., Oklahoma, for improving water and sewer systems, at about $18,815.

Fargo, N. D.—Following are the four lowest bids with unit prices opened Dec. 16 for sewer contract No. 101; (1) clay pipe, (2) concrete pipe, (3) vitr. pipe: (a) Dearborn Constr. Co., Waterloo, Ia., (1) and (2) $202,440; (b) Haggart Constr. Co., (1) $211,409, (2) $223,825; (c) Thos. Jackson & Son, (1) $206,096, (2) $221,191; (d) Jas. Kennedy, Fargo, (1) $199,017, (2) $205,336, (3) $204,950.

	(a)	(b)	(c)	(d)
1,070 ft. 72-in. clay pipe	$21.75	$22.50	$22.80	$20.20
1,070 ft. 72-in. concrete pipe	21.75	23.00	24.00	21.50
3,600 ft. 66-in. clay pipe	17.50	19.50	20.30	17.35
3,600 ft. 66-in. concrete pipe	17.50	21.50	21.80	17.50
1,150 ft. 54-in. clay pipe	8.40	12.00	8.70	13.85
1,150 ft. 54-in. concrete pipe	8.40	13.50	9.60	13.90
3.070 ft. 48-in. clay pipe	12.20	11.00	12.75	11.30
3.070 ft. 48-in. concrete pipe	12.20	11.50	14.00	11.70
2,330 ft. 36-in. vitr. pipe	....	....	....	8.97
2,330 ft. 36-in. clay pipe	8.20	7.80	6.80	7.25
2,330 ft. 36-in. concrete pipe	8.20	8.60	7.50	7.85
380 ft. 33-in. vitr. pipe	....	....	....	7.85
380 ft. 33-in. clay pipe	7.40	7.30	6.00	6.70
380 ft. 33-in. concrete pipe	7.40	7.80	6.60	7.32
1,550 ft. 30-in. vitr. pipe	....	....	....	6.88
1,550 ft. 30-in. clay pipe	6.90	7.00	5.25	6.15
1,550 ft. 30-in. concrete pipe	6.90	7.00	6.00	6.75
1,150 ft. 27-in. vitr. pipe	....	....	....	5.56
1,150 ft. 27-in. clay pipe	5.75	5.40	4.70	5.25
1,150 ft. 27-in. concrete pipe	5.75	5.10	5.15	5.56
960 ft. 24-in. vitr. pipe	....	....	....	4.81
960 ft. 24-in. clay pipe	5.50	4.90	3.85	....
960 ft. 24-in. concrete pipe	5.50	4.60	....	4.84
1,450 ft. 22-in. vitr. pipe	....	....	....	4.55
1,450 ft. 22-in. clay pipe	4.60	4.60	3.50	....
380 ft. 20-in. vitr. pipe	....	....	....	4.23
380 ft. 20-in. clay pipe	4.25	4.50	3.60	....
1,870 ft. 18-in. vitr. pipe	....	....	....	3.55
1,870 ft. 18-in. clay pipe	3.90	3.75	3.60	....
2 manholes, Type A	125.00	60.00	60.00	60.00
15 manholes, Type B	125.00	120.00	85.00	85.00
36 manholes, Type C	110.00	120.00	120.00	90.00
87 catchbasins	35.00	60.00	60.00	60.00

Following are lowest bids opened for sewers, Contracts 102, 103 and 106: Contract 102: clay pipe, (c) $7,054. Contract 103: for clay pipe, (b) $6,891; concrete pipe, $6,774. Contract 106: clay pipe, (b) $16,276; concrete pipe, $15,892; clay and concrete, $20,093; Aiken Constr. Co.: clay, $21,513; C. H. Porritt, clay, $22,681.

★**Allentown, Pa.** — Following are contracts awarded for constructing storm sewers, bids opened by city Dec. 26 (Chas. S. Weirbach, city engr.):

★Tilghman St. sewer, awarded to Geo. H. Harder, Allentown, at $22,256; following is unit bid:

100 lin. ft. special timber box culvert section	$4.50
623 lin. ft. 48-in. circular monolithic concrete sewer	4.55
1,860 lin. ft. 42-in. circular monolithic concrete sewer	5.00
300 lin. ft. 36-in. circular monolithic sewer	3.76
620 lin. ft. 24-in. d.-s. vitried pipe sewer	2.80
13 circular stand. brick manholes	58.00
4 30-in. "A" inlets	102.00
3 36-in. "A" inlets	126.00
5 30-in. "C" inlets	108.00
1 36-in. "C" inlet	102.00
18 30-in. "E" inlets	110.00
2 36-in. "E" inlets	112.00
1,100 cu. yd. rock excav.	1.50
extra earth excav.	0.75
extra 1:2:4 concrete in place (incl. forms)	10.00
200 lin. ft. 15-in. vitr. pipe sewer	1.57
1 cir. standard brick manhole	58.00
1 30-in. "A" inlet	108.00
2 30-in. "E" inlets	96.00
1 36-in. "D" inlet	100.00

★Sumner Ave. sewer, awarded to Geo. K. Hardner, Allentown, at $25,094; following is unit bid:

1,300 lin. ft. 7 ft. 3 in. x 8 ft. 4 in. rein, con. box cul. sewer	$15.48
2 circular con. manholes	35.00
2 plan "G" inlets	50.00
1 special inlet	50.00
2,500 cu. yd. rock excav.	1.90
extra earth excav.	0.75

★E. Maple and E. Clair Sts., awarded to Weaver Constr. Co., Allentown, at $23,837, with brick invert; following is unit bid:

2,570 lin. ft. 48-in. cir. mon. con. sewer	$7.25
600 lin. ft. brick invert in above (optional with city)	0.50
2,570 lin. ft. 48-in. cir. rein. con. pipe sewer	8.00
Segment block sewer	7.25
86 lin. ft. d.-s. vitr. pipe sewer, 24-in.	3.00
10 cir. standard brick manholes	50.00
1 36-in. "B" inlet	95.00
1 30-in. "C" inlet	90.00
1 36-in. "C" inlet	95.00
4 30-in. "D" inlets	90.00
2 36-in. "D" inlets	95.00
8 30-in. "E" inlets	90.00
3 36-in. "E" inlets	95.00
475 lin. ft. 6 x 8-in. stan. con. curb.	0.55
925 lin. ft. 24 x8-in. std. con. gutter.	0.46
650 cu. yd. rock excav.	2.50
Extra earth excav.	0.75
1:2:4 con. in place (incl. forms).	6.50

★Oak and Howard relief sewer awarded to Schaeffer & Ackerman, Allentown, at $4,873, for monolithic concrete, and Lehigh St. to Continental Contr. Co., Baltimore, at $5,355, for vitr. pipe.

★**Mineral Wells, Tex.**—Following are four lowest bids opened by city Dec. 27 for constructing sewage disposal plant to consist of Imhoff tank, filter and sludge beds: Whitley Bros., Mineral Wells, at $16,770 (awarded contract); McCall & Moore, 308 Amicable Bldg., Waco., at $17,-390; Sam B. Cook & Co., Mineral Wells, at $17,487; Dallas Lime & Gravel Co., Sherman & Pierce Sts., Dallas, at $20,800. Wm. W. McClendon, city engr.

★**Tulsa, Okla.**—Contract awarded by city to Fogel Constr. Co., 515 Reliance Bldg., Kansas City, Mo., for waterworks improvements at $174,050.

★**Winnipeg, Man.**—Contract awarded by city to Winnipeg Aqueduct Constr. Co., Union Bank Bldg., for constructing 9.5 miles of 5-ft. 6-in. reinforced concrete pipe at $1,308,753. R. D. Waugh, chmn. comrs., Greater Winnipeg Water Dist., 901 Boyd Bldg.

STRUCTURAL STEEL WORK

PROPOSED WORK.

New York, N. Y.—Bd. Estimate has appropriated $200,000 for 700-ft., steel and concrete bridge, 80 ft. wide, over Sheepshead Bay at foot of Ocean Ave., Brooklyn Boro., with space for double trolley track for future extension of Brooklyn Rapid Transit's (C. L. Crabbs, engr. ways and struct., 85 Clinton St., Brooklyn, N. Y.) Ocean Ave. line and roadway for automobiles; also $200,000 proposed bridge over Bronx River, at E. 174th St., Bronx Boro. Tilden Adamson, dir., Bureau Contract Supervision.

Mountainview, N. J.—Delaware, Lackawanna & Western RR. (G. J. Ray, ch. engr., Hoboken, N. J.) intends eliminating grade crossing on Newark-Pompton turnpike by constructing highway bridge over RR. tracks and Morris Canal.

Trenton, N. J.—Plans have been completed by Pennsylvania RR. (Alex. C. Shand, ch. engr., Broad St., Philadelphia, Pa.) for constructing bridges at N. Willow and N. Broad Sts., also tunnel at W. State St. under canal feeder and tracks of Belvidere div.

Carbondale, Pa.—See "Railways."

Morristown, N. J.—Bd. Freeholders estimate cost of constructing new bridge in county during 1917 at $80,000 and repairing present structures at $20,000.

Butler, Pa.—Pub. Service Comn., Michael J. Ryan, comr., Harrisburg, Pa., has approved plans of Pittsburgh, Bessemer & Lake Erie RR., operated by Bessemer & Lake Erie RR. (H. T. Porter, ch. engr., Greenville, Pa.), and Pittsburgh & Western RR., operated by Baltimore & Ohio RR. (R. N. Begien, ch. engr., Baltimore, Md.), for eliminating grade crossing at Main St. in this boro. by construction of viaduct over tracks.

Wynnewood, Pa.—Philadelphia & Reading RR. (Samuel T. Wagner, ch. engr., Philadelphia, Pa.) intends constructing 50 ft. span, steel and concrete bridge here.

Lincolnton, N. C.—County voted $65,000 bonds to reconstruct bridges destroyed by July floods.

Scotland Neck, N. C.—Scotland Neck Bd. of Trade securing data for constructing proposed bridge over Roanoke River on main road to Norfolk and eastern section of the other Atlantic States.

Clarksville, Tenn.—House of Representatives, Washington, D. C., considering advisability of constructing 2 bridges over Cumberland River here, for which local Chamber of Commerce (F. M. Smith, pres.) is securing data.

Urbana, O.—City intends Jan. 15 selling bonds for $10,000 for repairing Dugan St. bridge. H. M. Crow, clk.

Ft. Wayne, Ind.—City intends constructing bridge over St. Joe River at State St.; estimated cost $65,000.

Richmond, Ind.—Plans being prepared by John W. Mueller, engr., County Court House, for constructing bridges at Main and South G. Sts., on which will be double track accommodations for Terre Haute, Indianapolis & Eastern Traction Co.'s (Robt. I. Todd, pres., Terminal Bldg., Indianapolis, Ind.) street cars; part of cost will probably be borne by traction company.

Nebo, Ill.—All bids received Dec. 28, by H. H. Handy, co. supt. highways, Pittsfield, Ill., for constructing Weaver bridge with 70-ft. span rejected; will readvertise.

Atlantic, Ia.—Plans being prepared by H. W. Williams, co. engr., for constructing 2 bridges; one with three 32 I-beam spans, one skewed, other with two 24-ft. I-beam spans; both with 20-ft. roadway, concrete floors and abutments; also two reinforced concrete box culverts. C. E. Kringle, co. aud.

Duluth, Minn.—City Council has asked State Legislature for permission to bond city for $200,000 to construct $50,000 bridge over Chester Creek between 8th and 9th Sts., and repair and build other bridges during 1917. It is intention of city to grant franchise for extending 9th St. car line over this bridge to Woodland Ave. F. A. Farrell, comr., estimates that $150,000 is required to remove old bridges and replace these with fills, and $10,000 to maintain and repair old bridges.

Kratka, Minn.—Petitions being circulated in this section of county to construct bridge over Red Lake River between Sects. 21 and 22 in Township 153, Range 41 west; also making road from Mavie to State road running east from Hazel into State road, and having same graveled.

Madison, S. D.—City considering constr. of two 20 ft. span steel and concrete bridges. C. A. Timer, city engr.

Beaumont, Tex. — See "Foundations, Piers and Dams."

Fort Worth, Tex.—Contracts will shortly be awarded by city for reconstructing Jennings Ave. viaduct. F. J. von Zuben, city engr.

El Reno, Okla.—Counties of Grady (Chickasha, co. seat) and Canadian (El Reno, co. seat) contemplate constructing toll bridge over South Canadian River.

Tulsa, Okla.—Midland Valley RR. (C. Kaighn, ch. engr., Muskogee, Okla.) intends constructing viaduct at 6th St.

Union City, Okla.—Stock company being formed by citizens of Minco, Okla., intend constructing bridge over South Canadian River, near here, between Grady (Chickasha, co. seat) and Canadian (El Reno, co. seat) Counties. Address Ben F. Johnson, care Grady County Highway Assoc., Chickasha.

Seattle, Wash.—City Council considering submission at general municipal election March 6, question of $275,000 bond issue for constructing superstructure to bridge over Lake Washington Canal at Montlake Blvd.; 23rd Ave. car line will probably be extended over this bridge into Laurelhurst district. A. H. Dimock, city engr.

Tacoma, Wash.—See "Miscellaneous."

Portland, Ore.—Reported plans being prepared by Philip H. Dater, city engr., for construction of several new bridges during 1917, including 2 steel ones over Balch's Gulch.

Kellogg, Idaho.—City officials and Oregon-Washington RR. & Navigation Co. (S. Murray, ch. engr., Portland, Ore.) intend constructing viaduct over RR. tracks and bridge over river to McKinley Ave., in Sunnyside sect.

Sandwich, Ont.—Contracts will be awarded in spring by E. J. O'Neil, road supt., Essex County, Sandwich, Ont., for constructing steel bridge and 12 concrete culverts.

BIDS DESIRED.

York, S. C.—Reported desired until Jan. 17, by Co. Supervs. and Comrs. for erecting steel highway bridge 980 ft. long across Catawba River; plans may be obtained from W. W. Miller, co. engr., Rock Hill.

Bucyrus, O.—Reported desired until Feb. 1, by Crawford Co. Comrs., for constructing bridge across Sandusky River at Gay St.; cost, about $15,000. Address Co. Clk., Bucyrus.

Columbus, O.—Reported desired until Jan. 12, by Bd. Comrs. (John Scott, clk.), for constructing bridges.

Gallon, O.—Reported desired until Feb. 1, by Co. Comrs. (O. H. Biebenhauser, aud.), for constructing bridge on Gill St.; cost, about $10,000. H. Keller, Court House, Bucyrus, engr.

Atlantic, Ia.—Reported desired until Feb. 1, by Cass County, for constructing three 32-ft. and two 24-ft. I-beam span bridge, and 2 reinforced concrete box culverts; H. S. Williams, co. engr.

Warrensburg, Mo.—Reported desired until Jan. 16, by Co. Comrs., for constructing 16 steel bridges.

Fresno, Cal.—Until Jan. 10, by Bd. Supervs., for reconstructing Centerville bridge across Kings River; certified check for 10% to accompany each bid.

Riverside, Cal.—Reported desired until Jan. 17, by A. B. Pilch, co. clk., for constructing Cottonwood Canyon bridge.

REINFORCED CONCRETE

PROPOSED WORK.

Massena, N. Y.—Plans being prepared by Concrete Steel Engr. Co., 21 Park Row, New York City, for $75,000 reinforced concrete arched bridge, 400 ft. long, over Grassee River. Frank A. Hough, town clk., Main St.

Newark, N. J.—Reported Celluloid Co. will erect two additions to celluloid plant on Ashbridge St., consisting of 3-story, reinforced concrete structures, 75 x 190 ft., and 48 x 95 ft., to cost $142,500 and $45,000 respectively.

Philadelphia, Pa.—Revised plans for Pennsylvania RR. (Alex. C. Shand, ch. engr., Broad St., Philadelphia) for improvement in South Philadelphia as presented to Bd. Pub. Wks. (W. H. Connell, ch.), includes construction of 2 reinforced concrete viaducts; one along 25th St. from Arsenal bridge over Schuylkill river to Point Breeze Ave., other on Washington Ave. from 25th to 26th Sts.; also construction of several elevated freight yards and large freight terminal at Broad St. and Washington Ave.; total estimated cost $4,500,000, contracts for which will probably be awarded in spring.

Baltimore, Md.—Standard Grease & Glue Co. (G. A. Whiting, pres.) plans erecting plant (concrete construction) in Curtis Bay Dist. for developing new process of extracting grease and manufacturing glue and soap; cost, about $100,000.

Richmond, Va.—City intends constructing reinforced concrete bridge on Arch St. from 7th to 9th Sts.

Cleveland, O.—Goff-Kirby Coal Co., Elec. Bldg., intends constructing 900 ft. concrete trestle, with tracks on top and coal bins beneath; also 2-story office building, at Euclid Ave. and Coit Rd.

Ft. Wayne, Ind.—All bids received Dec. 27 by city for constructing $65,000 3-span reinforced concrete arch bridge over St. Joseph River, rejected; will readvertise. A. W. Grosvenor, engr., 408 Bass Block, Ft. Wayne.

Minneapolis, Minn.—Plans being prepared by Curtis Court Hotel and Apartment Constr. Co. (Theodore F. Curtis, pres.) for erecting 12-story brick and reinforced concrete apartment hotel bldg. at 4th Ave. S. and 10th St., to cost $375,000.

Kansas City, Mo.—Bd. Pub. Wks. (L. Oppenstein, pres.) intends constructing reinforced concrete arched viaduct over Vine St. at 27th St. with 40-ft. roadway and two 6-ft. sidewalks; on either side of arch span there will be 3 girder spans, each 37 ft. long, with 86 ft. long retaining walls at each end of structure. Viaduct will have 2 railway car tracks with live-load capacity of 150 lb. per sq. ft.

BIDS DESIRED.

Nashville, Tenn.—Until Jan. 30 at U. S. Engrs. office, Nashville, for constructing concrete lock F. Cumberland River; advertised in this issue.

Nevada, Ia.—Reported desired until Jan. 16, by F. E. King, co. aud., for reconstructing 55 reinforced concrete bridges and culverts; Sam Steigwalt, co. engr.

El Centro, Cal.—Until Jan. 12 by Imperial Irrigation Dist (F. H. McIver, secy.), for constructing reinforced concrete Rockwood Intake Gate and structure; certified check for $10,000 to accompany each bid; advertised in this issue.

Los Angeles, Cal.—Until Jan. 22, by Bd. Supervs. (A. M. McPherrin, clk.), for erecting 3-story and basement, 110 x 144 ft., reinforced concrete, brick and hollow tile juvenile detention home at County Hospital grounds, Mission Rd. and Workman St.; cost about $120,000.

Manhattan Beach, Cal.—Until Jan. 17, by City Trustees, for constructing reinforced concrete promenade 27 blocks long, including concrete pavement about 15 ft. wide; 13 flights of concrete stairways, 800 ft. ornamental concrete balustrade, reinforced concrete walls up to 22 ft. high; 7500 lin. ft. of vitrified clay; corr iron and cement drainage pipe; iron pipe railings, etc., cost about $52,000; M. M. Murray, city engr.

PRICES AND LETTINGS

★Indicates award of contract.

★Rochester, N. Y.—Contract awarded by Eastman Kodak Co. (Geo. Eastman, pres.) to Ferro Concrete Constr. Co., Richmond and Harriet Sts., Cincinnati, O., for erecting reinforced concrete factory building to be known as No. 50, at Kodak Park; cost $50,000.

★Philadelphia, Pa.—Contract awarded William Steele & Son, 16 Arch St., for erecting 2-story brick and reinforced concrete dye house at 25th and Dickson Sts. for S. B. & B. W. Fleisher; cost $70,000.

★Lorain, O.—See "Foundations, Piers and Dams."

★Ellsworth, Kan.—Contract awarded by co. (A. J. Klingensmith, clk.) to Allen & Fulton, Topeka, Kan., at $26,888, for constructing concrete bridge over Smoky Hill river.

ROADS AND PAVING

PROPOSED WORK.

Albany, N. Y.—State Highway Comn., Edwin Duffey, comr., 55 Lancaster St., Albany, N. Y., has $20,000,000 left from last bond issue of $50,000,000 for construction of state roads.

New York, N. Y.—Bd. Estimate has appropriated $2,000,000 for repaving streets in all boroughs. Frank L. Dowling, pres., Bd. Aldermen.

Utica, N. Y.—Finance, Park & Parkways and Pub. Health & Bath comns. have under consideration improvements estimated at $49,000, as follows: Acquiring of land for artificial lake in Nail creek, south of Pleasant St., and constructing bridge over same, $35,000; constructing cement sidewalks in Johnson Park, Chancellor Sq. and at playgrounds, $2,500, and improvements in Roscoe Conklin Park, $4,000; in Addison C. Miller Park, $2,500; in playgrounds, $5,000.

Asbury Park, N. J.—Bd. Freeholders intend paving Main St. with concrete at estimated cost of $30,000.

Camden, N. J.—City intends paving portions of S. Eighth, Louis and Chase Sts. with sheet asphalt, and Bway. with Belgian blocks, all on concrete foundations.

Cape May, N. J.—Surveys being made for proposed road which will eliminate 8 grade crossings, from Wildwood Crest to Sewell's Point over Turtle Cut Inlet. Address Clk. Bd. Freeholders.

Jersey City, N. J.—City Comrs. intend paving 5 blocks of St. Paul's Ave. at estimated cost of $20,000.

Newton, N. J.—State Highway Dept., Trenton, and Hampton township intends improving road from here to Halsey.

West New York, N. J.—Town intends paving portions of 22nd and 25th Sts.; estimated cost $15,000.

Wilmington, Del.—Concord turnpike from city line to Blue Ball will be reconstructed at estimated cost of $32,000. Address Co. Clk.

Chesterfield, Va.—Bd. Supervs. considering paving Petersburg-Richmond turnpike with asphalt-macadam if Federal Aid is secured.

Virginia.—Virginia's share of Federal Road Aid apportioned as follows: 1st year, $100,000; 2nd, 3rd and 4th years, $200,000; 5th year, $500,000. State Highway Comn. (G. P. Coleman, comr.), Richmond, will improve road from Courtland to Emporia which forms imporant link in highway from Norfolk to Danville. Bd. Supervs., Franklin, Southampton Co., will improve with Federal Aid portion of Norfolk-Richmond highway that passes through county.

Wise, Va.—City appropriated $50,000 for street improvements and construction of concrete road between here and Rellim on Guests River.

Albemarle, N. C.—County has under consideration construction with bitulithic surface, of 25 ft. road, 5 miles long, between here and Baden, Va. Address Co. Clk.

Savannah, Ga.—City intends spending $30,000 for opening Montgomery St. and paving same from Best St. to city limits. E. R. Conant, city engr.

Bartow, Fla.—Co. Comrs. considering petition for improving about 50 miles of road at estimated cost of $350,000.

MacClenny, Fla.—County will receive $14,000 Federal aid in addition to $90,000 recently voted for hard-surfacing sect. of national highway that passes through county.

Miami, Fla.—Election will shortly be held in new road district, recently formed, to vote $85,000 road bonds.

Beaverton, Ala.—Section of Bankhead highway in Lamar County from Guin to Sulligent, via Beaverton and Crews, will be built by private subscription and partly by towns of Guin and Beaverton. W. W. Ogden, chmn., Lamar County branch of Bankhead Highway Assoc., Sulligent, Ala.

Selma, Ala.—Contracts will shortly be let by city for street improvements, estimated at $50,000.

Monroe, La.—County sold $500,000 road bonds which will be used to construct nearly 100 miles of hard surfaced roads in 2 road dists. in Ouachita Parish east of Ouachita River.

Oakdale, La.—Road and bridge bond issue for $75,000 carried at Dec. 7 election in Allen Paris. C. Lindsey, secy. Police Jury. L. W. Manuel, engr., Kinder, La.

New Albany, Miss.—Bd. Supervs. intend asking approval of citizens for spending $100,000 on 30 miles of Bankhead Highway road work; J. A. Rountree, secy. Bankhead Highway Assn., Birmingham, Ala.

Richton, Miss.—On Dec. 5 Bd. Supervs. sold $200,000 good-road bonds, which will be used to construct 2 north-and-south roads, 1 through Rhodes, Richton and Beaumont, other through Runnellstown and New Augusta; 2 east-and-west roads, 1 from Forrest Co. along Leaf River through Beaumont and Lucedale, other from Hattiesburg through Richton and Leakesville to Mobile.

Barboursville, Ky.—Road construction for which $200,000 bonds have been sold, will be started in March; address co. clk.

Benham, Ky.—Contracts will soon be let by city for improving Main and 3rd Sts., at estimated cost of $35,000.
County has appropriated $20,000 to construct macadam road from here to Poor Fork, distance 1½ miles. Address Co. Clk., Harlan.

Campton, Ky.—Contracts will soon be let by city for reconstructing whole length of Main St.; estimated cost $75,000.

Catlettsburg, Ky.—County intends hard surfacing road from 13th St., Ashland to Lawrence co. line at mouth of Bolts Fork; good road bonds for $175,000 will shortly be sold. Address Judge Wade.

La Grange, Ky.—County sold on Dec. 15 $50,000 road bonds.

Louisville, Ky.—County intends constructing in spring 3-mile extension to Western Parkway from city limits to Government Fish Hatchery at estimated cost of $80,000. This includes constructing $10,000 concrete and steel bridge over Paddy's Run in back of State Fairgrounds; half of bridge cost to be borne by city of Louisville.

Madisonville, Ky.—Contracts may be awarded in April by Co. Comrs. for about 3 miles of macadam road, 18 ft. to 30 ft. wide.

Pineville, Ky.—Road bonds for $105,000 voted at November election have been sold by county.

Prestonsburg, Ky. — County intends spending $50,000 on road improvements during 1917; also construction of 2 or 3 steel bridges.

Whitesburg, Ky.—Plans for spending $30,000 county road and bridge fund and $10,000 state aid during 1917 being considered by Co. Comrs. Henry T. Day, co. judge.

Cleveland, O.—See "Water and Sewerage Systems."

Fostoria, O.—County Comrs. of Wood (Bowling Green, co. seat), and Seneca (Tiffin, co. seat) Counties considering paving highway between here and Toledo, 5½ miles, either with waterbound macadam or brick.

Hamilton, O.—Street improvement bonds for $15,000 will be sold Jan. 12 by Ernst E. Elb, city aud.

Lisbon, O.—County sold following road bonds: $27,875 East Palestine and New Waterford; $14,800 East Palestine-Negley; $10,800 Lisbon-Salem; $10,200 Wellsville-Salineville; $9,500 Lisbon-Salem.

Middletown, O.—Street improvement bonds for $25,663 will be sold Jan. 18 by Louis T. Nein, city aud.

Ottawa, O.—Plans being prepared by P. E. Ford, co. engr., for following road improvements: 1½ miles of brick pavement on concrete base with catch basins in Putnam township and waterbound macadam road in Greenburg township. J. E. Roose, co. aud.

Port Clinton O.—County comrs. intend paving roads in county with brick or concrete at estimated cost of $92,000. Funds will be received from following sources: $46,000 county; $17,000, state aid; $5,000, main market road; $24,000, township.

Portsmouth, O.—County has following moneys for road work during 1917: $94,000 county and $47,000 state funds for permanent road improvements; $7,000 highway maintenance funds; by July next county will have $47,000 for inter-county roads. John J. Harper, co. engr.
City considering opening 17th St. through to Mabert Rd., resurfacing 2nd St., macadamizing Front and Jackson Sts., and improving 10 other streets; also extending newly completed flood wall from its present terminus, east of Offnere St., to Lawson's Run, then north to new Lawson run viaduct and on to present city corporation line.

Detroit, Mich.—Following improvements are under consideration by city: Paving portions of Vancouver, Thornton and Wheelock Aves. and six other streets and two alleys and constructing of pumping station in vicinity of Woodmere and Ferndale Aves. to take care of additional sewage in this vicinity. R. H. McCormick, city engr.

Flint, Mich.—Plans being prepared by E. C. Shoecraft, city engr., for constructing bridge over river from Beach St. to Garland St.

Nashville, Mich.—Village has voted $22,400 bonds which will be sold in spring, to pave Main St. with brick on concrete foundation. F. K. Nelson, village clk.

Stevens Point, Wis.—County intends constructing by day labor system of highways, estimated at $50,000, under supervision of State Highway Comn., Madison. A. E. Bowne, co. clk.

Eldora, Ia.—City intends paving 33 blocks during 1917.

Kratka, Minn.—See "Roads and Paving."

Columbus, Neb.—Estimated cost of paving in Dist. No. 1 placed at $100,268. Wm. Becker, city clk.

Hamilton, Mont.—County sold $150,000 road construction bonds.

Newport, Ark.—Road Dist. No. 1 has $85,000 with which to construct ten miles of macadam and asphalt road. W. A. Bowman and G. McDearman, engrs., Newport, Ark.

Dallas, Tex.—City intends paving portion of Good St. with Uvalde asphalt, probable cost $20,000; also constructing sidewalks, curbs and gutters on portion of Sanger Ave. and paving portions of Maple Ave. and Cedar Springs road, and is considering paving portion of Washington Ave. with asphaltic concrete.

Denton, Tex.—County has under consideration $400,000 road bond issue covering district 20 miles north and south and 16 miles east and west.
City intends paving with asphalt macadam portion of West Hickory St., distance of one mile. J. S. Neibert, city engr.

Hollis, Okla.—Election Jan. 15 in Madge Twp. to vote $10.000 bridge construction bonds. J. D. Ready, co. clk.

Memphis, Tex.—City plans election April 3 to vote $20,000 street paving bonds.

Plainview, Tex.—Plans being prepared by Henry E. Elrod, Interurban Bldg., Dallas, Tex., for paving, estimated at $200,000, as contemplated by city.

Anadarko, Okla.—Special elections to vote on total bond issues of $125,000 for proposed permanent roads in 5 townships will be held at Binger in January and February. Address Co. Clk.

Lehigh, Okla.—County Comrs. have under consideration election to vote $12,500 good road bonds.

McAllister, Okla.—County plans election in early part of this year to vote bonds for hard surfacing 70 miles of roads. T. W. McLaughlin, co. engr.

Tulsa, Okla.—City intends grading and paving numerous streets of which some are: Cincinnati and Gillette Aves., Cameron St. and Chicago Pl. J. H. Simmons, mayor.

Pueblo, Col.—Some of streets in New Mesa Paving Dist. in which city is considering paving with bitulithic on crushed rock base, 4 in. thick, with sandstone blocks between railway tracks and 2 ft. on either side of same and concrete curbs and gutters where required, at estimated cost of $200,000, are: Abriendo Ave., Quincy, Pitkin and Adam Sts. and Bway; latter will be widened, making it 50 ft. between curbs with parking in center and two 18-ft. roadways.

Ferndale, Wash.—City has under consideration paving portion of 2 main streets at estimated cost of $12,000. F. C. Wetzer, city clk.

Hoquiam, Wash.—Reported city intends paving portion of Riverside Ave. at estimated cost of $17,279. John H. Neef, city engr.

Mt. Vernon, Wash.—Estimate of L. J. Caufield, city engr., for paving 1980 ft. of Cleveland Ave. with one-course concrete is $12,861.

Walla Walla, Wash. — Contracts will shortly be awarded by county (C. F. Dement, aud.), for macadamizing Russell Creek road from Yellowhawk bridge, distance 3½ miles. Grova Cookerly, co. engr.

Astoria, Ore.—County has appropriated $115,000 for repairing, maintaining and constructing roads and for necessary machinery required during 1917, also $17,000 for constructing 2 bridges over Nehalem River above Jewell.

This Change in Size

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Oregon City, Ore.—Estimates for road expenditures in county during 1917 as follows: Road and machinery repairs, $11,600, asphalt and oil $11,600, bridges and culverts $23,200.

Portland, Ore.—Philip H. Dater, city engr., estimates contracts for paving during 1917 will probably amount to $300,000. Plans for hard surfacing 10 blocks on Powell Valley Rd. now being prepared.

The Dalles, Ore.—County has appropriated $260,000 road funds, as follows: $91,000 for Mosier-Dalles City road; $34,000, Dalles City-Petersburg; $27,500, Dalles City-Dufur; $60,000, Maupin to Jefferson co. line, via Bakeover, Shaniko and Antelope; $27,500, Dufur to top of Butler Canyon or Tygh Grade; $20,000, Maupin to top of Butler Valley via Tygh Valley.

Tillamook, Ore.—County has appropriated $170,000 for road and bridge work during 1917, as follows: Road Dist. No. 1, $54,000 for 72 miles of roads; Road Dist. No. 2, $62,000 for 128 miles; Road Dist. No. 3, $54,000 for 110 miles.

Escondido, Cal.—Contract will probably be let in January by Bd. Supervs., San Diego, for constructing several miles of concrete roads in valley east of here. John T. Butler, co. clk.

Santa Barbara, Cal.—Election will be held to vote $250,000 bonds for completing pavement on East Boule. and construction of protective bulkhead.

Utah.—E. R. Morgan, state road engr., Salt Lake City, estimates that state will receive about $1,000,000 from federal road funds within next five years for highway purposes.

Idaho.—Reported State Legislature will appropriate about $500,000 for constructing roads throughout state. Address State Highway Comn., Boise City.

Winchester, Idaho.—Road construction bonds for $100,000 carried at recent county election.

BIDS DESIRED.

Keyport, N. J.—Reported desired, until Jan. 19, by Bd. Freeholders (John M. Corlies, dir.), for constructing road from Keyport to Red Bank with Warrenite surface and concrete base; cost about $65,000. Geo. D. Cooper, 60 Broad St., Red Bank, engr.

Wrightsville, N. J.—Reported desired, until Jan. 10, by Bd. Freeholders (John M. Corlies, dir.), for gravel road repairs from Wrightsville to New Canton; cost about $10,000; Geo. D. Cooper, 60 Broad St., Red Bank, engr.

Appalachia, Va.—Until Feb. 1, for street improvements to be begun Mar. 1; expenditure about $80,000; address city comrs.

Norton, Va.—Until Jan. 25, for improving Park Ave. and Oak St., cost about $75,000; address city comrs.

Gainesville, Fla.—Until Jan. 29, by Bd. Pub. Wks. (H. E. Taylor, chmn.), for about 15,000 sq. yd. vitr. brick paving on W. University Ave.; specifications may be obtained from I. E. Webster, secy.; certified check for $1,000 to accompany each bid.

Kissimmee, Fla.—Reported desired until Jan. 15 by Co. Comrs. (E. L. Lesley, chmn.), for constructing 16 miles brick road, 9 ft. wide, with concrete curbing; specifications may be obtained from J. L. Overstreet, clk.

Lakeland, Fla.—Until Jan. 20, by F. Cox, mayor, for 138,000 sq. yd. paving with sheet asphalt, asphalt block or brick; work includes grading about 12 miles streets. Adv. in this issue. J. W. Turner, engr.

Linden, Ala.—Reported desired until Jan. 18, by Marengo Co., for 8 miles sand-clay road from Dayton to Thomaston, and 2 miles gravel or sand-clay road south to Linden. Address Co. Clk.

Lake Charles, La.—Until Jan. 25, for 12,000 sq. yd. pavement; address Andrew Clark, city clk.

Hindman, Ky.—Until Jan. 29, by city, for constructing and paving with macadam Main St.; estimated cost $40,000. Address B. Combs, engr.

Irvine, Ky.—Until Feb. 12, by Fiscal Court (J. A. Alexander, co. clk.), for constructing about 1½ miles state aid road. H. de B. Forbes, engr., Richmond, Ky.

Jackson, Ky.—Until Jan. 10, by county, for improving roads around Jackson; estimated cost $50,000. Address Co. Judge.

Paintsville, Ky.—Until Jan. 15, by city, for improving various streets, including sewer and drainage work; estimated cost $100,000. Address the Mayor.

Pikeville, Ky.—Until Jan. 24, by county, for constructing $100,000 worth of roads immediately below Pikeville. Address Co. Judge.

Prestonsburg, Ky.—Until Jan. 19, by city, for improving various streets; estimated cost $50,000.

Ravenna, Ky.—Until Jan. 31, for improving Main and Railroad Sts., expenditure about $25,000; address City Council.

Saylersville, Ky.—Until Jan. 26 for constructing roadway between Sayersville and Cannel City; cost about $30,000; address co. comrs.

Park Ridge, Ill.—Until Jan. 16, by Bd. Local Imp. (Albert Verity, pres.), for asphaltic concrete pavement on Center St.; work includes 4-in. drains, 3050 cu. yd. excavation, 5460 sq. yd. asphaltic concrete pavement, together with sewer, concrete crosswalks, concrete manholes, catch-basins, etc. Plans may be obtained from Ewing & Allen, engrs., Room 1402, 111 W. Monroe St., Chicago.

Valley City, N. D.—Until Jan. 13, by Bd. Co. Comrs. (C. W. Nelson, aud.), for constructing following sections of roads: Sec. 1, on Green and White Trail, north and south of Valley City; Sec. 2, on Red and White Trail, east and west of city; Sec. 3, in Skandia Twp. Work includes total of 101,000 cu. yd. earth excavation and 6 miles turnpiking; certified check for $2000 to accompany each bid; plans may be obtained from C. A. Myhre, co. surv.

Ardmore, Okla.—Until Jan. 9, for paving portions of streets throughout city. Address G. H. Bruce, city clk.

Bristow, Okla.—Until Jan. 16, by Bd. Trustees (C. A. West, chmn.), for constructing cement sidewalks 4 ft. wide; specifications may be obtained from Ray Power, clk.

Bakersfield, Cal.—Until Jan. 15 (readvertisement) for grading and constructing an asphalt pavement, concrete curbs, gutters and sidewalks on 20th St. S. G. Ballagh, city clk.

Hanford, Cal.—Reported desired until Jan. 9, by E. F. Pickerill, co. clk., for constructing 11¾ miles highway.

PRICES AND LETTINGS

★Indicates award of contract.

★New York, N. Y.—Lowest bid opened Dec. 28 by Pres. Bronx Boro., Municipal Bldg., 177th St. and 3d Ave. for grading, setting curbs, constructing sidewalks and crosswalks, inlets, receiving basins, drains, culverts, approaches and guard rails in portions of Unionport Rd. and Amethyst St., was, J. V. Troisi, 35 S. Third Ave., Mt. Vernon, N. Y., $31,853, and for same work in portion of Olmstead Ave., was, Fred Schneider, 1531 Westchester Ave., $25,882.

★Stone Harbor, N. J.—Contract awarded by Boro. Council to South Jersey Realty Co., 3rd and Walnut Sts., Philadelphia, Pa., at $14,489, for improving streets and constructing sidewalks in south end section.

★West Virginia.—Contract awarded by State Road Bureau (A. D. Williams, ch. road engr., Library Bldg., Morgantown, W. Va.) (bids opened Dec. 15), for contracts aggregating $293,000, as follows: For 60 miles of grading in Sandy River Dist., McDowell County, to T. Towles & Co., Princeton, W. Va., Sam G. Walker, Welch, W. Va., and U. S. Tackett, Mt. Sterling, Ky., and for 8 concrete bridges to Luten Bridge Co., York, Pa., and 5 iron bridges with concrete floors to Sam G. Walker, Welch, W. Va.

★Grove Hill, Ala.—Contract awarded by county to J. H. Linch, Dadeville, Ala., to construct 70 miles of gravel and sand-clay roads; $70,000 appropriated. A. L. Smith, engr., Grove Hill, Ala.

★Luverne, Ala.—Contract awarded by county to L. C. Rawlinson, Luverne, at $10,000, for constructing 5½ miles sand-clay road. J. M. Garrett, engr., 120 Catoma St., Montgomery, Ala.

★Monroe, La.—Contract awarded by Co. Comrs. to Womack Constr. Co., Sherman, Tex., at $205,817, for construction, only, of 2 roads in Ouachita Paris; separate contracts will be made for materials.

★Ohio.—Contract awarded by State Highway Comn. (H. L. Hastings ch. clk., Columbus, O.) to Harkness Renick, Williamsport, O., for constructing 7½ miles of National Pike.

Following are low bids for road work opened Dec. 21, by State Highway Comn., for (A) waterbound macadam, (B) reinforced concrete, (C) bituminous concrete, (D) monolithic brick, (E) sheet asphalt, (F) bituminous concrete, (G) bituminous macadam, (H) waterbound macadam with bituminous top: Sec. A, Carthage-Hamilton road, A. Wirtz Transfer Co., Hamilton, O., (A) $52,797, (G) $65,790, (C) $89,249, (B) $89,507 (F) $98,782 (D) $112,199, (E) $115,607; Sec. I, Hamilton-Middletown, T. J. Connell, Cambridge City, Ind., (B) $54,127, Andrews Paving Co., Hamilton, O., (C) $56,000, (F) $59,000, (E) $68,000; R. A. McCutcheon, Franklin, O., (D) $69,000; Sec. J, Hamilton-Middletown, A. Wirtz Transfer Co., (A) $36,243, (H) $48,559, (B) $56,881, (C) $58,711, (F) $61,824, (D) $71,860, Federal Asphalt Paving Co., Hamilton, O., (E) $73,800; Sec. O, Hamilton-Scipio, T. J. Connell, (B) $32,305, (D) $38,977, Federal Asphalt Paving Co., (E) $41,660; Sec. H., Caldwell-Cambridge, Green & Getman, Kent, O., $17,272; Sec. A, Dayton-Chillicothe, Oather M. Junk, Chillicothe, O., $35,555. No bids were received for Sec. B, Ripley-Hillsboro, Sec. B, Wilmington-Xenia, Sec. A, Cincinnati-Hamilton, Sec. A., Carthage-Hamilton, Sec. J., Bridgeport-Cadiz, and Sec. L, Steubenville-Cambridge roads.

★Beloit, Kan.—Contract awarded by city to McGuire & Stanton Constr. Co., Leavenworth, Kan., at $150,000, for grading, curbing and paving about 65,000 sq. yd. on three streets with vertical fiber brick on 5-in. concrete base and asphalt filler.

★Cleburne, Tex.—Contract awarded Dec. 21 by city (J. T. Buckner, engr.) to Cleveland Trinidad Paving Co., Dallas, Tex., for paving business streets, at $16,000, with 8000 sq. yd. sheet asphalt, and at $7,750 with 5000 sq. yd. asphaltic concrete.

★Seattle, Wash.—Contract awarded by Bd. Pub. Wks. (C. B. Bagley, secy.), to McGuire Bros., 523 First Ave., W., Seattle, at $13,439, for paving portion of Ferry Ave.

El Segundo, Cal.—Following are 4 lowest bids opened Dec 18 by Bd. Supervs., Los Angeles, for constructing with 5-in. macadam., 2.32 miles on Ballona Ave. and Main St., Road Dist. No. 117, involving 12,450 cu. yd. excavation, 12,265 lin. ft. grading, 269,698 sq. ft. macadam pavement, corrugated iron and concrete culverts (county furnishing rock, screenings and oil): Fred Hoffman, 111 E. 12th St. and White & Gaskell, both of Long Beach, Cal., each $12,000; Crown Constr. Co., Los Angeles, $12,189; Rogers Bros. Co., Hibernian Bldg., Los Angeles, $12,387.

★Owensboro, Ky.—Following are total figures of 4 lowest bids opened Dec. 12 by Rodman Wiley, comr. pub. roads, Frankfort, Ky., for reconstructing Leitchfield, St. Joseph, Hawesville and Rockport Roads: Total bids (a) Montgomery Perkins Co., Hopkinsville, Ky, at $174,706 (awarded contract); (b) Cresap Bros., $174,826; (c) Freeman & Robbins, Knoxville, Tenn., $179,515; (d) Miller & Woodruff, Owensboro, Ky., $181,015. Total and unit prices on Leitchfield Road of above bidders, as follows; (a) $85,053; (b) $81,109; (c) $87,097; (d) $82,926.

	*(a)	(b)	(c)	(d)
200 large trees and stumps	$3.50	$5.00	$3.50	$3.50
63,000 cu. yd. earth excavation	0.28	0.265	0.27	0.20
100 cu. yd. solid rock	1.00	2.50	1.00	1.00
72 lin. ft. 15-in. corrugated metal pipe	0.25	0.40	0.25	0.50
24 lin. ft. 18-in. corrugated metal pipe	0.30	0.50	0.35	0.75
48 lin. ft. 24-in. corrugated metal pipe	0.35	0.60	0.40	1.00
32 lin. ft. 30-in. corrugated metal pipe	0.40	0.70	0.50	1.25
478 cu. yd. concrete class A, 1:2:4	11.25	11.50	11.00	11.00
935 cu. yd. concrete class B. 1:2½:5	10.75	10.00	10.50	10.00
20 cu. yd. concrete class Hand Rail, 1:2:3	20.00	30.00	20.00	30.00
533,401 lb. reinforcing steel	0.0675	0.065	0.06	0.07
16,816 cu. yd. river gravel	2.52	2.40	2.50	2.65
20,180 tons broken stone	2.93	....	2.50	2.36

★**Berkeley, Cal.**—Contract awarded by city to Clark & Henry Constr. Co., Sacramento, at $58,000, for paving entire length of San Pablo Ave. in city.

Los Angeles, Cal.—Lowest bids opened for road work Dec. 26 by Bd. Supervs., as follows: For paving Grand View Ave., Glendale, Cal., Road Dist. No. 116, with 5-in. concrete, involving about 6460 cu. yd. excavation, 5659 lin. ft. grading, 10,528 lin. ft. cement curbs, 180 cu. yd. concrete and 3630 lb. reinforcing steel in culverts (county furnishes cement), was from Geo. H. Oswald, Johnson Bldg., Los Angeles, at $11,000. For paving with macadam, 2.62 miles on Vine Ave., Road Dist. No. 55, 2½ miles from Lark Ellen station on Pacific Electric Ry., involving 13,585 cu. yd. excavation, 13,844 lin. ft. grading, 150 cu. yd. concrete in culverts, 6895 lb. steel (county furnishes rock and oil), was from Rogers Bros. Co., Hibernian Bldg., Los Angeles, at $16,400.

Manhattan Beach, Cal.—Following are 4 lowest bids opened Dec. 18 by Bd. Supervs., Los Angeles, for constructing with 5-in. concrete, 1.16 miles on Coast Boule., Strand and Highland Ave., Road Dist. No. 112, involving 22,879 cu. yds. excav., 6130 lin. ft. grading, 13,623 sq. yd. concrete pavement, 4875 ft. guard fence, corrugated iron culverts (county furnishes cement, sand, gravel and oil): Fred Hoffman, 111 E. 12th St., Long Beach, Cal., $15,000; A. L. Amee, $15,998; Crown Constr. Co., Los Angeles, $16,238; Redondo Constr. Co., Redondo Beach, Cal., $18,058.

San Diego, Cal.—Following are 4 lowest bids opened Dec. 18 by city for paving 103,000 sq. ft. on Kansas St. with 4-in. concrete and oiled screenings surface: Fairchild-Gilmore-Wilton Co., Pacific Elec. Bldg., Los Angeles, $10,712 (unit bid, 0.104 cts. per sq. ft.); C. L. Hyde Constr. Co., 954 Third St., $11,124 (0.109 cts.); E. A. McAlpin, $11,439 (0.113 cts.); John Engebretsen, $11,551 (0.117 cts.), last three of San Diego.

★**San Francisco, Cal.**—Contract awarded by city to Pacific Creosoting Co., Northern Life Bldg., Seattle, for 800,000 creosoted wood blocks to be used in paving about 1 mile of Battery St., replacing present basalt block pavement.

★**Matchwood, Idaho.**—Reported contract awarded by Idaho Match Block Co., local, to G. A. Carlson, E. 803 Euclid St., Spokane, Wash., at $50,000, for constructing logging roads.

RAILWAYS
Steam and Electric

PROPOSED WORK.

Boothbay, Me.—Reported plans being prepared to construct an electric railway from Boothbay to connect with the Lincoln and Knox County branch of the Maine Central RR.; cost estimated at $150,000.

Worcester, Mass.—Worcester St. Ry. Co. has received permission from the Bd. of Aldermen to construct an extension in Greenwood St. to the Millbury line.

Brooklyn, N. Y.—Pub. Service Comn., First Dist., 120 Bway, New York, reports that N. Y. Cons. RR. of Brooklyn expects during the year to put in operation third track on Bway. line from Myrtle Ave. to Aberdeen St. and Jamaica Ave. extension from Cypress Hills to Jamaica; also third track system on Myrtle Ave line between Bway. and Wyckoff Ave.

Carbondale, Pa.—Reported that Delaware & Hudson RR. Co. (Jas. MacMartin, ch. engr., Albany, N. Y.), will construct a line from Carbondale to Lanesboro; work would include a viaduct near Gelatt. Operating at present on leased tracks of Erie RR.

Greenville, Pa.—Bessemer and Lake Erie RR. (H. T. Porter, ch. engr.) will spend $300,000 at K. O. Junction near here for improvements.

Philadelphia, Pa.—See "Reinforced Concrete."

Philadelphia, Pa.—Pennsylvania RR. Co. (Alex C. Shand, ch. engr.), plans to electrify the Germantown and Chestnut Hill branch at a cost of $1,200,000.

Hampton, Va.—H. R. Booker, Nelson D Groome and H. H. Holt have received a franchise from City Council to construct a line from Mallory Ave. to the city limits of Hampton.

Norton, Va.—Survey of a 10-mile extension of the Interstate branch of the Louisville & Nashville (W. H. Courtenay, ch. engr., Louisville), has just been made from Norton into the headwaters of Guest River, the Black Mountain section, and an estimate of the cost of the road is now being taken.

High Point, N. C.—Bond issue for extension of Carolina & Yadkin River Ry. (W. E. Price, gen. mgr., High Point), from High Point to Mt. Gilead or some point on Seaboard RR., was carried.

Union, S. C.—Application has been made to the City Council for a franchise to construct an electric railway. E. F. Kelly, B. F. Kennedy and A. C. Kennedy of Union interested.

Collinwood, Tenn.—Plans completed on construction of 16-mile railroad from Collinwood to Wayne Furnace by the Tennessee Iron & RR. Co. E. H. Steinman, pres., Collinwood.

Gary, Ind.—Charles D. Davidson, receiver of the Gary & Interurban RR. has asked City Council for a franchise to construct extensions on Broadway, 5th, 11th, 9th Aves., Clark Rd., Buchanan, Virginia, Mississippi and Taft Sts.

Berwin, Ill.—Chicago & West Towns Ry. (F. L. Butler, gen. mgr., Oak Park), has received a franchise from City Council of Berwyn to construct 3 new cross-town car lines on Harlem, Ogden and Ridgeland Aves.

Wauconda, Ill.—Chicago, Fox Lake & Northern Electric Ry. Co. (L. K. Sherman, ch, engr., Chicago), has received permission from the Illinois Pub. Utilities Comn. for an extension from Wauconda to Antioch and to the Wisconsin State line.

Taylor Springs, Ill.—Southern Illinois Light & Power Co. has received a franchise from City Council to construct a line to the American Zinc Co.'s smelter.

Burlington, Ia.—Burlington Ry. & Light Co. (C. H. Walsh, gen. mgr.), has received permission from the Iowa RR. Comn. to extend its transmission lines in Louisa and Des Moines counties.

St. Paul, Minn.—Chicago, St. Paul, Minneapolis & Omaha RR. (H. Rettinghouse, ch. engr., St. Paul) plans double tracking right of way between St. Paul and Mankato; cost about $2,000,000.

Amidon, N. D.—Milwaukee RR. is planning an extension from Amidon to New England; cost about $750,000. H. B. Earling, vice pres., Chicago, Ill.

Great Falls, Mont. — Reported Great Northern Ry. Co. (A. H. Hogeland, ch. engr., St. Paul, Minn.) considering enlargement of freight yards on west side; cost, about $200,000.

Pine Bluff, Ark.—Pine Bluff Ry. Co. (Frank Emerson, ch. engr., Pine Bluff) reports it will construct 1¼ mile of track during 1917.

Spokane, Wash.—Plans completed for increasing yard capacity of the Great Northern Ry. Co. at Hillyard to extend about 6 miles, at a cost of about $50,000. Construction will be ordered at an early date.

Fresno, Cal.—Permission has been secured by the Fresno Traction Co. from the Railroad Comn. of California to issue $49,597 bonds to be used to extend its lines.

Grenada, Cal.—A. S. Harlow, Mt. Shasta Land & Irrigation Co., interested in construction of a railroad from Grenada to Yreka, a distance of 10 miles on the Southern Pacific RR.

San Francisco, Cal.—At the request of local steamship operators, Jas. J. Walsh, San Francisco, has prepared plans for an elevated electric railway along the waterfront from the Channel to Ft. Mason, about 2.8 miles, at a cost of $1,120,000.

Salt Lake City, Utah.—Emigration Canyon RR. (Le Grande Young, ch. engr.), has asked the Council for a franchise to construct an extension to the mouth of Big Cottonwood Canyon and thence up the Canyon.

Hull, Que.—Reported Hull Electric Co. plans to construct about 2½ miles of track during 1917.

PRICES AND LETTINGS
★Indicates award of contract.

★**Calipatria, Cal.**—Contract awarded to Jackson & Lockhart, Brawley, for grading roadbed for 12-mile extension of Southern Pacific Ry. from Calipatria to Westmoreland.

★**Yuma, Ariz.**—Contract awarded by Southern Pacific RR. Co. to Twohy Bros., Seattle, Wash., for constructing 17 miles road between Yuma, Ariz., and San Diego, Cal.; contract signed for $1,000,000.

★**Tooele, Utah.**—Contract awarded to Utah Construction Co., Ogden, for grading 16 miles of railroad for Western Pacific R.R. (T. J. Wyche, ch. engr., San Francisco, Cal.)

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK.

Lawrence, Mass.—Reported Lawrence Development Co. will erect $110,000 factory building.

Springfield, Mass.—Fibeloid Co. has increased its capital stock $1,000,000, proceeds to be used for enlarging plant and equipment.

Hartford, Conn. — Reported Underwood Computing Machine Co. will erect new $110,000 factory on Arbor St.

Stafford Springs, Conn.—Reported R. I. Worsted Co. plans erecting two 200 x 300-ft. 1-story standard construction worsted mill building; cost $85,000. C. A. Tinker, Stafford Springs, Conn., archt.

Tottenville, S. I., N. Y.—Reported By-Products Co., 10 Broadway, New York, will erect boiler plant at factory on Shooter's Island; cost $125,000; plans also filed for erecting new tankage plant; cost $150,000.

Kearny, N. J.—The Seaboard By-Products Co. will soon erect new factory buildings along Kearny meadows; cost $50,000.

Newark, N. J.—See "Reinforced Concrete."

Altoona, Pa.—Reported Schwarzenbach-Huber Co. plan enlarging mill here; cost about $100,000.

Chester, Pa.—Consumers' Ice Co. plan erecting big addition to plant on Delaware river; cost about $135,000.

Johnstown, Pa.—Reported Cambria Steel Co. will erect two blast furnaces; cost about $3,000,000; plans also being considered for erecting car wheel plant; cost about $4,000,000.

Midland, Pa.—Reported Crucible Steel Co., Oliver Bldg., Pittsburgh, Pa., will erect foundry here at cost of $75,000.

Philadelphia, Pa.—See "Reinforced Concrete."

★**West Chester, Pa.**—Contract awarded by Carpenter Steel Works, Reading, to Reading Contracting Company for erecting steel and concrete 216 x 76 ft. 6-story storage house; cost $100,000.

Richmond, Va.—Reported W. H. Harris Grocery Co. will erect 5-story brick storage bldg. at 15th and Dock Sts.; cost $65,000.

Cleveland, O.—Reported manufacturing plant, costing $75,000, will be erected at W. 60th St. and New York Central RR., by interests represented by J. D. Runkle, of Schauffler, Realty Co., 318 Leader News Bldg.

Empire, Ohio.—Reported American Sewer Pipe Co., Oliver Bldg., Pittsburgh, Pa., will erect 4-story plant on site of Ohio Valley Brick Wks., which were recently destroyed by fire; cost about $50,000.

Richmond, Ind.—Reported Lorrillard Co. will erect 3-story brick addition to present factory; cost $75,000.

Centerville, Ia.—Reported Centerville Light & Traction Co. will erect power plant in spring, increasing capacity from 2000 to 5000 hp.

Waterloo, Ia.—Reported Ford automobile assembling plant and service station will be erected here; cost $100,000.

St. Paul, Minn.—Equity Co-Operative Exchange, 209 Pioneer Bldg., plan erecting 1,000,000 bu. capacity addition to elevator recently completed here as soon as frost is out of ground.

Arkansas City, Kan.—Election will be held Jan. 9 to vote on bond issue of $70,000 for erecting school.

Baker, Ore.—Reported Frank B. Mitchell will erect lumber mill; cost, about $100,000.

Chino, Cal.—Reported San Antonio Growers' Assoc. will erect 107 x 470-ft. cannery; cost $50,000. Vernon Campbell, genl. mgr.

Los Angeles, Cal.—Public Safety Committee of City Council will have preliminary plans prepared for jail buildings.

Torrance, Cal.—Reported Pacific Electric Railway, Los Angeles, will start work in January on new shops comprising 14 buildings of brick, steel and concrete consisting of machine shop and paint shop, each 450 x 180 ft.; freight car shop, 180 x 400 ft.; blacksmith shop, 155 x 200 ft.; power house, 60 x 120 ft.; office, dry lumber and iron storage buildings, coal bunkers and scrap bins. Plans being completed by J. D. Isaacs, 165 Broadway, consulting engineer for Harriman lines, New York City.

Marysvale, Utah.—Reported Pittsburgh-Utah Potash Co. asking bids on 200-ton plant to be erected here for treatment of potash ore. Chas. J. Petgen, pres, 202 Union Bank Bldg., Pittsburgh, Pa.

Boise, Idaho.—Reported Caldwell Milling & Elevator Co. will erect 2,000,000 grain elevator in spring; cost $75,000.

Wahnapitae, Ont.—Plans being prepared by F. J. Brule, Room 603, Royal Bank Bldg., Toronto, for erecting nickel refinery for British American Nickel Corporation; cost $500,000.

Wiarton, Ont.—Reported Canada Furniture Co., whose factory was recently destroyed by fire, loss $80,000, will rebuild.

Vancouver, B. C.—Plans being prepared by Gardiner & Mercer, Birks Bldg., for erecting shipbuilding plant and machine shops; cost $350,000, for Vulcan Iron Works, Front St., New Westminster.

BIDS DESIRED.

Vallejo, Cal.—Reported desired until Feb. 5, by Bureau Yds. & Docks, Navy Dept., for erecting extension to machine shop at Mare Island Navy Yard; cost about $150,000.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Dunkirk, N. Y.**—Contract awarded McClintic-Marshall Co., Pittsburgh, Pa., for erecting 70 x 400-ft. 1-story rolling mill for Atlas Crucible Steel Co., Dunkirk.

★**Lockport, N. Y.**—Contract awarded by Harrison Mfg. Co., H. C. Harrison, Pres., to American Concrete Steel Co., 27 Clinton St., Newark, N. J., for erecting 163 x 396-ft., 2-story factory building at Elm and Walnut Sts.; cost $250,000.

★**Philadelphia, Pa.**—Contract awarded Cramp & Co., Dunckla Bldg., for erecting 8-story, brick and reinforced-concrete, 120 x 236 ft. factory at 6th and Filbert Sts., for Hale & Kilburn Co., manufacturers of iron and steel products; cost $450,000.

★**Philadelphia, Pa.**—Contract awarded Wm. Steele & Sons Co., 1600 Arch St., for erecting 2-story, 109 x 140 ft. brick factory on 25th St., for S. B. and B. W. Fleisher, Inc., yarn manufacturers; cost $70,000.

★**Philadelphia, Pa.**—See "Reinforced Concrete."

★**Reading, Pa.**—Contract awarded Reading Construction Co. for erecting 6-story, 75 x 216-ft. steel and concrete addition to plant of Carpenter Steel Co.; cost about $100,000.

★**Martin Ferry, O.**—Contract awarded by Whitaker-Glessner Co. to McClintic-Marshall Constr. Co., Oliver Bldg., Pittsburgh, for erecting 8 sheet mills in Beech Bottom, W. Va.

★**Norwood, O.**—Contract awarded by Allis-Chalmers Co. to H. C. Hazen Co., 2070 Reading Rd., Cincinnati, for erecting addition to plant; cost $50,000.

★**Stamford, Ia.**—Contract awarded Austin Co., 412-420 Newfield Bldg., Bridgeport, Conn., for erecting 72 x 200-ft. 3-story smelter building by Stamford Rolling Mills Co., Stamford.

★**North Vancouver, B. C.**—See "Foundations, Piers and Dams."

BUILDINGS
Public and Private

PROPOSED WORK.

Southbridge, Mass. — See Webster, Mass."

Webster, Mass. — Reported Henry J. Steinberg will erect $65,000 brick apartment block here and similar building at equal cost in Southbridge. G. N. Jacobs, Beacon St., Boston, archt.

Providence, R. I.—Plans completed for 40-room brick school building to be erected at Winter, Pond and Summer Sts. Bids will be called in early spring. J. W. Gainer, mayor and chmn. school bd.

Bristol, Conn.—Attorney Newell Jennings has filed articles of incorporation for erecting new Bristol Community Club building to be located on east side of Main St.; cost, about $200,000. Among the incorporators are Mayor Joseph F. Dutton, Edwin E. Arnold, and others.

Albany, N. Y.—Plans prepared by Lewis F. Pilcher, state archt., for reconstructing Sing Sing Prison by convict labor; appropriation for $750,000 has been made. Wingdale or Beekman prison will also be erected at a cost of $1,250,000; 30 buildings included in plans.

Brooklyn, N. Y.—Plans being prepared by Gronenberg & Leuchtag, 303 5th Ave., New York City, for erecting 6-story brick limestone and terra cotta 83 x 103-ft. apartment house; cost $70,000.

Great Neck, L. I., N. Y.—Plans to be prepared by James W. O'Connor, 3 W. 29th St., New York City, for erecting 3-story brick 35 x 70-ft. apartment house on 3rd St. near Long Island RR. Station; cost $150,000. William R. Grace & Co., 7 Hanover Sq., New York, owners.

New York, N. Y.—Reported Joseph Harbater has purchased site on E. 125th St., between 2nd and 3rd Aves., and will erect 2-story garage; cost $75,000. Charles B. Meyers, archt., 1 Union Square.

New York City, N. Y.—Plans are completed by Kendall, Taylor & Co., 93 Federal St., Boston, Mass., for erecting 1-story 247 x 334-ft. fireproof church at 168th St. and Bway.; cost, about $50,000.

Plans to be prepared by Walker & Gillette, 128 E. 37th St., for erecting 5-story brick and stone 25 x 100-ft. residence at 52 E. 69th St. for Harvey Gibson, 120 Bway.; cost $100,000.

Plans were completed by Ogden Codman, 340 Madison Ave., for erecting 7-story 25 x 100-ft. residence at 96th St. for Robert L. Livingstone, 41 E. 75th St.; cost $60,000.

Watertown, N. Y.—Plans being prepared by D. D. Kief, Watertown, for erecting 5-story brick and steel 100 x 100-ft. office building on Franklin St.; cost $75,000. Northern New York Utilities, Inc., owners.

Bayonne, N. J.—Bd. Educ. received estimates of proposed new school in Third Ward, totaling $196,334 and $240,000 respectively; plans soon to be prepared for structure.

Haddonfield, N. J.—Masonic Temple plans erecting marble and granite building on site adjoining Presbyterian Church; cost about $100,000. Funds for structure available. B. F. Fowler, member finance committee.

Newark, N. J.—Reported city will erect 4-story 75 x 98-ft. police headquarters at 32-42 Franklin St.; cost $150,000.

Johnstown, Pa.—See "Miscellaneous."

Philadelphia, Pa.—Reported Northeastern Hospital will erect 3-story brick and stone, 50 x 100-ft. building. Ready for bids in near future. Ballinger & Perrot, archts., Methodist Bldg.

Plans being prepared by Ballinger & Perrot, 17th and Arch Sts., for erecting 3-story addition, 50 x 100 ft., to Northwestern Hospital, Allegheny Ave.

Fidelity Trust Co. has purchased property at corner of Broad and Walnut Sts., for about $4,000,000, and plans erecting large office and bank building on site.

Philadelphia, Pa.—See "Reinforced Concrete."

Cincinnati, O.—Plans were completed by Theis & Theis, Dayton, for erecting 9-story 150-room club and boys' home with chapel, gymnasium and swimming pool on Pioneer St. for Fenwick Club and Boys' Home; cost $200,000.

Cleveland, O.—Morse Bldg Co., 610 Garfield Bldg., Walter McClure, Secy. & Treas., plans erecting 43 suite apartment at corner of E. 77th St. and Euclid Ave.; cost about $125,000.

Koblitz Plumbing & Heating Co., 1305 Prospect Ave., plans erecting 4-story, 100 x 200 ft. building at 3224 Prospect Ave.; cost about $95,000.

Reported J. L. Free, 1004 Prospect Ave., represents interests which will erect hotel at Prospect Ave. and E. 21st St.; cost $200,000. N. Max Dunning, 35 S. Dearborn St., Chicago, probable architect. Wells Bros. Co., 53 W. Jackson St., Chicago, Ill., probable contractors.

Cedar Rapids, Ia.—Plans and specifications for $100,000 Voorhees Hall has been completed and bids will be called in the near future; $50,000 was pledged for new library; buildings are result of $1,000,000 endowment campaign. Address Secy. Coe College.

Minneapolis, Minn. — See "Reinforced Concrete."

St. Paul, Minn.—Reported Hamline University will erect 2 new buildings; cost, $100,000 each. Address Pres.

Hastings, Neb.—Plans being prepared by C. W. Way Co. for erecting junior high school; cost $125,000.

Butte, Mont.—Reported School Bd. considering erecting school at Lake Avoca and annexes to Harrison and Washington schools; about $218,000 available.

St. Louis, Mo.—Reported Loyal Order of Moose, 25 N. Grand Ave., will erect combination theater and club building; cost $500,000.

Fort Worth, Tex.—Reported election soon to be held for issuing $400,000 bonds for school improvements; $100,000 will probably be used for erecting high school on north side. Address schl. bd.

Los Angeles, Cal.—See "Reinforced Concrete."

Los Angeles, Cal.—Preliminary plans being prepared by W. J. Saunders, Laughlin Bldg., for erecting 10-story and basement, 55 x 126 ft., 200-room, reinforced concrete hotel building at 8th and Hope Sts., for Henry Biescar.

Oakland, Cal.—Erection of $1,000,000 post office contemplated here.

San Pedro, Cal.—Reported Major Henry W. Newton, U. S. A., will begin erection of army barracks at Port MacArthur, Pacific Ave. near 21st St.; probable cost $400,000. There will be four 2-story barracks, 12 double houses for officers, hospital, store house and guards' quarters.

San Francisco, Cal.—Plans being prepared by Rousseau & Rousseau, Inc., 110 Sutter St., for erecting 6-story brick and steel apartment building at Eddy & Hyde Sts., to cost $100,000.

Tucson, Ariz.—Plans being prepared by J. B. Lyman, Timken Bldg., San Diego, Cal., for Regents of University of Arizona for erecting mining building at university; $150,000 available.

Hailey, Idaho.—Reported J. C. Fox is having plans prepared for erecting 60-ft. brick business block on Main St., adjoining Opera House.

Barrie, Ont.—Reported Collegiate Institute, recently destroyed by fire, loss $100,000, plans to rebuild. Arthur W. Smith, secy.

Toronto, Ont.—Reported Car Barns of Toronto Street Ry., recently destroyed by fire, loss of $200,000, will be rebuilt of fireproof construction and enlarged.

BIDS DESIRED.

Wrentham, Mass.—Until Jan. 17, by Commission on Mental Diseases (Geo. M. Kline, M.D., dir.) for erecting, including heating, ventilating and wiring of dormitory building at Wrentham State School; plans may be seen at office of Taylor & Co., archts., 93 Federal St., Boston.

West Chester, Pa.—Until about Jan 18, by Paul A. Davis, 3rd, 1713 Sansom St., Philadelphia, for erecting 3-story brick, stone and concrete school house.

Charleston, W. Va.—Until Jan 23 (new date), by Bd. Educ. (W. O. Daum, secy.), for erecting Junior High School, 2nd Ward and Fernbank school building, 10th Ward.

Morgantown, W. Va.—Until Feb. 14, by State Bd. Control (J. S. Larkin, pres.), for erecting agricultural building 85 ft. 9 in. x

188 ft., three stories and basement; girls' dormitory building, 42 ft. 9 in. x 220 ft. 4 in. with one porch 12 ft. 11 in. x 66 ft. ½ in.; bids to be addressed to State Bd. Control, Charleston, W. Va., advertised in this issue.

Until Jan. 15, by State Bd. Control (J. S. Lakin, pres.), for erecting 2 buildings, four stories, brick and limestone, 45 x 160 ft. for University of West Virginia; Paul A. Davis, archt., 1713 Sansom St., Philadelphia, Pa.

Barnesville, Ga.—Until Feb. 19, by Jas. A. Wetmore, superv. archt., Treas. Dept., Washington, D. C., for constructing U. S. postoffice building; drawings may be obtained from custodian at Barnesville or from Superv. Archt.

Leesburg, Ga.—Reported desired until Jan. 18, by T. S. Burton, chmn. bldg. comn., for erecting courthouse; J. J. Baldwin, archt., Anderson, S. C.

Moultrie, Ga.—Until Feb. 12, by Jas. A. Wetmore, superv. archt., Treas. Dept., Washington, D. C., for erecting U. S. postoffice building; specifications may be obtained from custodian at Moultrie, or from Superv. Archt.

Jacksonville, Fla.—Until Jan. 27 (readvertisement) by Bd. Pub. Instruction (F. A. Hathaway, co. supt.), for erecting 25-room brick school building at Ashley and Broad Sts.; certified check for $500 to accompany each bid. M. C. Greeley, archt.

McComb, Miss.—Until Feb. 16, by James A. Wetmore, superv. archt., Treas. Dept., Washington, D. C., for erecting U. S. postoffice building; specifications may be obtained from custodian at McComb, or from Superv. Archt.

Somerset, O.—Reported desired until Jan. 12 (readvertisement), by Bd. Educ. (G. M. Brehm, pres.), for erecting grade and high school; separate bids on heating, ventilating and plumbing; F. S. Rusk & Cree Sheets, archts., 145 N. High St., Columbus.

East St. Louis, Ill.—Until Jan. 9 (change of date), by James A. Wetmore, superv. archt., Treas. Dept., Washington, D. C., for extension and remodeling (including mechanical equipment and approaches) of U. S. post office and courthouse.

Peoria, Ill.—Reported desired until Feb. 1 by St. Francis Hospital, for erecting hospital; cost, about $150,000. A. F. Moratz, Bloomington, archt.

Appleton, Wis.—Until about Jan. 10, for constructing addition to asylum, 3 stories, 44 x 92 ft., to be of brick, tile and reinforced concrete; cost, about $55,000. C. H. Williams, Green Bay, archt.

Sioux City, Ia.—Reported desired until Jan. 15, by T. S. Martin, 412 Nebraska St., for erecting theater; cost, about $100,000.

Rockford, Minn.—Until Jan. 10, by School Dist. No. 112 (C. M. Johnson, clk.), for erecting 2-story brick school building; certified check for 5 per cent to accompany each bid. C. Buckley, archt., 252 Plymouth Bldg., Minneapolis.

Rochester, Minn.—Reported desired until March 1, by Bd. Educ., for erecting 2-story brick school building; cost, about $50,000. J. Hoffman & Co., Rochester, archt.

Minot, N. D.—Until Jan. 24, by Robt. B. Stacy-Judd, for erecting, including plumbing, heating and ventilating, and wiring, for store and apartment block; certified check for 5% to accompany each bid; plans are on file at Builders and Traders' Exchange, Minneapolis and Duluth; copies may be had from archt. upon payment of $25.

Dillon, Mont.—Reported desired until Jan. 15, by Jesse M. Warren, Daily Bank Bldg., Butte, for erecting hotel, 3-story and basement, 75 x 115 ft., including heating, plumbing, electric lighting, etc.; cost, about $75,000.

Jonesboro, Ark.—Reported desired until Jan. 16 by A. E. Lockhart, secy. School Bd., for erecting high school building, including plumbing, heating and lighting; plans may be obtained from secretary upon deposit of $10.

San Angelo, Tex.—Reported desired until Jan. 15 by C. C. McBurnett, for erecting 7-story fireproof hotel with 110 rooms, about 75 baths; mezzanine and banquet hall on second floor; dining room on first floor to seat 200; roof constructed to permit converting into roof garden, refrigerating plant, elevators, vacuum cleaning system; 100 x 110 ft., concrete floors, etc.; cost, about $150,000. Geo. Burnett Co., archt., Waco.

Rufugio, Tex.—Reported desired until Jan. 15, by Eugene Low, co. judge, for erecting fireproof courthouse.

Wenatchee, Wash.—Reported desired until Jan. 19 (new date) by James A. Wetmore, superv. archt., Treas Dept., Washington, D. C., for erecting post office building.

Bakersfield, Cal.—Until Jan. 15 (change of date), by James A. Wetmore, superv. archt., Treas. Dept., Washington, D. C., for erecting post office building.

Fresno, Cal.—Reported desired until Jan. 15, by E. Mathewson, Cory Bldg., for erecting 6-story, class A building on J St., near Mariposa; cost about $165,000.

PRICES AND LETTINGS

★Indicates award of contract.

Bridgewater, Mass.—Following are bids received Dec. 4 for erecting dormitory, refectory and service building on ground of State Normal School: General contract, J. W. Bishop Co., Boston, Mass., $143,685; plumbing, W. G. Cornell, $15,100; electrical Tremaine Electric Co., Brockton, Mass., $6,600; elevator, Otis Elevator Co., Boston, Mass., $1,960; heating, Lynch & Woodward, Boston, Mass., $19,770. Received by Massachusetts Bd. Educ. Edw. C. Baldwin, business agent, Boston.

★St. George, S. I., N. Y.—Contract awarded P. J. Carlin Constr. Co., News Bldg., Madison St., Brooklyn, for completing courthouse at St. George; cost $224,000.

★Garfield, N. J.—Contract awarded John Taburer, 9th St., Passaic, for erecting 3-story brick and terra cotta 74 x 150-ft. club house with wing 45 x 47 ft. on 5th Ave. and Monroe St., for Polish People's Home Club; cost $50,000. Frank Pirrone, archt., 104 Midland Ave.

★Chester, Pa.—Contract awarded H. Louis Morris, Chester, for erecting first unit of Horace Mann school, at $63,697.

Philadelphia, Pa.—See "Reinforced Concrete."

**★Contract awarded by Bd. Educ. to Cramp & Co., Dinkla Bldg., for erecting 3-story, 84 x 114 ft. brick and stone school building at Sartain and Moore Sts.; cost $114,000. J. Horace Cook, archt.

★Cincinnati, O.—Contract awarded by Bd. Educ. to H. Harrig & Co., 31 E. 4th St., for erecting addition to McKinley School at $55,350.

★Carrol, Ia.—Contract awarded Read-Macdonald-Brewster, Minneapolis, Minn., at $68,695 for erecting 2-story brick and reinforced concrete steel school building. Will R. Smith, Secy. Bd. Educ.

★Ardmore, Okla.—Contract awarded Russel Brown Co., Dallas, Tex., for erecting 6-story office building; cost $300,000.

★Los Angeles, Cal.—Contract awarded F. O. Engstrum Co., 5th and Seaton Sts., for erecting 11-stroy and basement reinforced concrete 180-room hotel and 11-story and basement reinforced concrete 200-room apartment house on Wiltshire Blvd. between Coronado and Carondolet Sts. for Hugh W. Bryson; cost $650,000. Preliminary plans prepared by C. H. Keysor, 618 Wright & Callender Bldg.

★San Francisco, Cal.—Contract awarded by Commercial Center Realty Co. to R. W. Moller, 180 Jessie St., for erecting steel and brick store building, at $67,000.

★Montreal, Quebec.—Contract awarded by St. Henry School Commissioners to O. Filion, 2419 St. Denis St., for erecting brick and stone school; cost $75,000.

★Normandin, Quebec.—Contract awarded Edmond Tremblay, Ste Anne de Chicoutimi, Quebec, for erecting parish church; cost $125,000. J. P. Ouellet, 28 Ste Famaille St., Quebec, archt.

★London, Ont.—Contract awarded Hyatt Bros., 288 Egerton St., London, at $85,000 for erecting brick and concrete additions to Alexandra Sanatorium.

New York, N. Y.—Following are totals and unit figures of three lowest bids opened Dec. 28 by Bd. Public Comn. for First District, 120 Bway., for Route Nos. 4 to 38, Sec. Nos. 1A-1 to 4 inclusive. Station finish (9 stations): (a) Seventh Ave. Constr. Co., 277 Bway., $389,880; (b) Serber Stander Co., 1123 Bway., $403,032; (c) P. A. Dwyer, Bway. and 216th St., $409,745; bidders all of New York City.

	(a)	(b)	(c)
501—14,200 sq. ft. tile w. g. 3 x 6 in. (a) straight	$0.61	$0.77	$0.68
240 sq. ft. tile w. g. 3 x 6 in. (b) 1 in. rad. comb.	0.95	1.10	1.70
1,700 sq. ft. tile w. g. 3 x 6 in. (c) 2½ in. rad. comb.	1.39	1.60	1.80
50 sq. ft. tile w. g. 3 x 6 in. (d) 20 in. rad. comb.	0.85	1.00	1.50
502—102,600 sq. ft. tile w. g. 4¼ x 4¼ in. (a) straight	0.61	0.74	0.68
90 sq. ft. tile w. g. 4¼ x 4¼ in. (b) 1 in. rad. comb.	1.15	1.32	1.75
4,030 sq. ft. tile w. g. 4¼ x 4¼ in. (c) 2½ in. rad. comb.	1.78	2.02	1.75
580 sq. ft. tile w. g. 4¼ x 4¼ in. (d) 20 in. rad. comb.	0.90	1.05	1.10
509—50 lin. ft. tile bead w. g. (a) 1 in. rad.	0.35	0.45	0.50
510—1,020 sq. ft. tile semi-vitr. col. h. m. not. w. p. (a) straight	1.00	1.17	1.30
511—7,600 sq. ft. w. p. tile col. h. m. (a) straight	1.00	1.17	1.25
20 sq. ft. w. p. tile col. h. m. (b) 1 in. rad. comb.	1.40	1.61	2.00
225 sq. ft. w. p. tile col. h. m. (c) 2½ in. rad. comb.	2.20	2.49	2.60
90 sq. ft. w. p. tile col. h m. (d) 20 in. rad. comb.	1.95	2.22	3.00
513—15,170 sq. ft. mosaic and tile bands	1.35	1.51	1.70
514—1,730 sq. ft. mosaic and tile tablets	1.50	1.65	2.00
515—300 mosaic and tile plaques (a) station walls, each	1.60	1.76	3.25
516—130 sq. ft. mosaic and tile destination tablets	1.60	1.76	2.00
518—330 sq. ft. faience plaques	9.00	10.00	10.00
521—31,500 sq. yd. plastering arches (b) concrete	0.46	0.44	0.55
522—9,800 sq. yd. plastering flats (a) brick or h. t.	0.40	0.50	0.65
11,030 sq. yd. plastering flats (b) concrete	0.58	0.50	0.55
60 sq. yd. plastering flats (c) metal lath	0.50	0.70	1.00
523—19,530 sq. ft. cement work (a) wainscots	0.14	0.125	0.10
179,000 sq. ft. cement work (c) 3 in. floor finish	0.12	0.12	0.125
8,430 sq. ft. cement work (d) finish on conc. or h. t.	0.08	0.05	0.10
50 sq. ft. cement work (e) sign panels	0.08	0.20	0.50
524—950 cu. ft. concrete work (a) copings	0.90	1.10	0.70
260 cu. yd. concrete work (b) foundations	8.00	8.25	10.00
50 cu. ft. concrete work (c) reinforced	0.90	0.88	1.00
1,500 cu. ft. concrete work (d) protective	0.90	0.88	1.20
750 cu. ft. concrete work (e) street landings	0.65	0.33	0.70
525—80 cu. yd. cinder fill	1.20	1.10	5.00
526—4,100 lin. ft. tr. concrete stairs, (a) self-supporting stairs	1.20	1.52	1.10
120 sq. ft. concrete stairs, (b) self-supporting landings	0.40	0.55	1.10
9,000 lin. ft. tr. concrete stairs, (c) supported stairs.	0.75	1.00	0.90
5,000 sq. ft. concrete stairs (d) supported landings	0.25	0.25	0.40
10 cu. ft. concrete stairs, (e) supporting columns	1.00	2.00	1.00
8,500 sq. ft. concrete stairs, (f) non-slip treads	1.05	1.13	0.90
4,380 lin. ft. concrete stairs (g) cement bases	0.20	0.22	0.25
770 lin. ft. concrete stairs, (h) cement finish exposed.	0.15	0.10	0.20
800 sq. ft. concrete stairs (l) cement finish street landings	0.10	0.10	0.15
527—19,560 cu. ft. brick masonry, (c) common	0.63	0.60	0.50
528—60 cu. ft. hollow tile masonry, (a) 2 in.	0.71	1.00	1.00
23,600 cu. ft. hollow tile masonry, (b) 3 in.	0.65	0.62	0.50
8,470 cu. ft. hollow tile masonry, (c) 4 in.	0.46	0.49	0.45
20 lin. ft. hollow tile masonry (d) 4½ x 13 in. flue	1.00	0.50	2.00
528A—1,760 weepholes, each	0.20	0.20	0.20
528B—400 galv. iron strap anchors, each	0.30	0.30	0.20
529—30 sq. yd. metal lath, (a) without furring	0.70	0.75	2.00
80 sq. yd. metal lath, (b) with furring	1.10	2.00	2.25

530—7 ticket booths, (b) Type "B," each	1,480.00	915.00	1,200.00
1 ticket booth, (d) Type "D," each	1,330.00	1,135.00	1,200.00
13 ticket booths, (e) Type "E," each	1,330.00	1,060.00	1,200.00
1 ticket booth, (g) Type "G," each	655.00	465.00	500.00
2 ticket booths, (h) Type "K," each	705.00	600.00	525.00
2 ticket booths, (n) special type	705.00	1,000.00	525.00
531—1,350 sq. ft. hollow metal partitions, etc., (a) stall partitions	0.39	1.10	1.00
200 hollow metal partitions, e.c., (b) posts, each	7.00	8.25	8.00
225 lin. ft. hollow metal partitions, etc., (c) top rail	0.75	1.10	1.00
532—7 doors, (a) Type "A," each	87.25	95.25	80.00
11 doors, (b) Type "B," per pair	142.00	132.00	140.00
104 doors, (d) Type "D," each	91.35	75.00	85.00
1 door, (e) Type "E," each	77.25	68.50	75.00
68 doors, (f) Type "G," per pair	64.00	52.00	60.00
1 door, (g) Type "J," each	90.00	94.00	75.00
240 sq. ft. doors, (h) Type "K"	3.00	4.50	3.50
6 doors, (i) Type "Q," each	44.50	45.00	33.00
100 sq. ft. doors, (l) Type "L"	3.00	5.00	3.50
11 doors, (m) Type "M," each	82.25	72.00	75.00
4 doors, (o) Type "P," each	44.50	39.00	33.00
2 doors, (u) Type "BS," pair	130.00	130.00	125.00
533—970 sq. ft. windows, (a) double hung	2.00	4.50	2.25
10 sq. ft. windows, (g) hinged	1.65	4.30	3.00
534—32 additional hardware, (a) door checks, each	6.40	4.75	5.00
115 additional hardware, (b) swing door stops (except Type G), each	3.85	3.00	3.20
24 additional hardware (c) rubber covered chains, each	3.00	2.10	2.50
32 additional hardware, (d) push plates, each	5.00	4.00	4.00
32 additional hardware, (e) door pulls, each	5.60	4.80	5.00
32 additional hardware, (f) kick plates, per pair	15.00	13.00	13.00
536—710 lin. ft. railings, (a) Type "FS"	4.15	4.00	4.50
1,460 sq. ft. railings, (c) Type "GS"	0.59	0.65	0.75
480 lin. ft. railings, (e) Type "LS"	4.40	4.05	4.50
450 sq. ft. railings, (f) Type "BS"	0.89	0.65	0.80
370 lin. ft. railings, (g) pipe	2.12	1.80	2.20
537—250 lin. ft. gates, etc., (a) low sliding	9.15	10.20	12.00
12 lin. ft. gates, etc., (b) high sliding	15.65	15.50	16.00
18 gates, etc., (c) folding	10.65	11.25	15.00
6 gates, etc., (e) exit turnstiles, each	327.00	245.00	275.00
26 gates, etc., (f) single gate controls, each	35.00	24.20	30.00
4 gates, etc., (g) double gate controls, each	50.00	38.50	40.00
4 gates, etc., (h) c.-i. floor boxes, each	12.00	8.80	12.00
20 lin. ft. gates, etc., (l) 1¼ in. galv. w.-i. pipe	0.35	0.50	1.00
700 lin. ft. gates, etc,. (m) 1 in. sq. steel tubing	0.52	0.61	1.00
40 gates, etc., (p) c.-i. gate posts, etc., per gate	60.00	72.00	80.00
4 gates, etc., (r) steel gate posts, etc., per gate	32.50	40.00	42.00
539—4 c.-i. vent posts, each	132.00	110.00	150.00
540—28 signs, etc., (c) frames illum.—suspended, each	130.00	128.00	120.00
40 sq. ft. signs, etc., (d) frames enam., sign on low railing	3.65	2.53	3.00
30 sq. ft. signs, etc., (e) frames enam., sign in high-low grille	3.40	2.53	3.00
415 lin. ft. signs, etc., (f) enam. reflectors	3.29	2.30	3.00
1,750 sq. ft. signs, etc., (g) enam. sign plates	0.55	0.66	0.75
90 sq. ft. signs, etc., (k) frames—enam. direction signs	3.00	1.82	2.00
542—690 lin. ft. street railings (a) Type "K"	8.15	9.10	10.00
940 lin. ft. street railings, (b) Type "K_1"	8.90	8.50	10.50
2 street railings, (c) Type "SK," each	427.00	525.00	600.00
542A—200 sq. ft. sheet metal (b) drip pans	0.50	0.48	1.00
543—50 lin. ft. tr. steel ladders, (a) ladders bet. stations	4.30	2.40	3.00
40 sq. ft. steel ladders, (b) ladder platforms	3.65	1.43	2.00
11,600 steel ladders, (e) steel lintels, per lb	0.06	0.05	0.07
1,150 steel ladders, (f) miscell. steel shapes, per lb	0.07	0.07	0.08
45 steel ladders, (g) ladders, each	20.00	12.20	20.00
543A—2,000 miscell. iron castings, per lb	0.09	0.09	0.10
544—4,530 lin ft. oak hand rails	0.60	0.70	0.60
546—10,470 lin. ft. platform edge const., (d) wooden facia	0.13	0.25	0.25
10,470 platform edge const., (e) drilling holes in angle, per hole	0.10	0.18	0.30
547—rough plumbing work (a) nine stations, lump sum	16,162.00	12,000.00	14,000.00
548—68 plumbing fixtures, (a) water-closet bowls, each	59.00	45.00	50.00
32 plumbing fixtures, (b) lavatories, stations, each	40.00	35.00	40.00
7 plumbing fixtures, (c) lavatories, signal towers, each	38.00	28.00	30.00
34 plumbing fixtures, (d) Urinals, each	89.00	78.00	85.00
1 plumbing fixture, (e) slop sinks, toilet rooms, each	78.00	72.00	80.00
15 plumbing fixtures, (g) slop sinks, closets, each	78.00	66.00	65.00
63 plumbing fixtures, (h) floor drains, each	22.00	13.40	15.00
549—800 lin. ft. 1 in. supply pipe	0.45	0.28	0.30
550—650 sq. ft. structural glass, (aa) ¾ in. wainscoting	1.90	1.76	1.60
2,450 sq. ft. structural glass, (b) ¾ in. pipe ch. partition	1.90	2.04	1.80
650 sq. ft. structural glass, (c) ¾ in. shelves	1.90	1.82	1.80
140 sq. ft. structural glass, (e) 1 in. floor slab	4.25	3.63	3.30
560 lin. ft. structural glass, (f) curved corners and angles	1.65	1.76	2.00
551—42 c.-i. work in toilets, (d) registers, each	8.00	11.00	15.00
14 c.-i. work in toilets, (e) vent louvres, each	20.00	13.20	17.00
552—14,700 supporting shapes—steel, per lb	0.085	0.08	0.10
554—10,970 lin. ft. electric conduits, w. i., (a) ¾ in	0.15	0.17	0.20
2,760 lin. ft. electric conduits, w. i., (b) 1 in	0.18	0.20	0.22
4,215 lin. ft. electric conduits, w. i., (c) 1½ in	0.25	0.28	0.30
1,675 lin. ft. electric conduits, w. i., (d) 2 in	0.46	0.51	0.40
225 lin. ft. electric conduits, w. i., (e) 2½ in	0.10	0.62	0.60
225 lin. ft. electric conduits, w. i., (f) 3 in	0.10	0.82	0.70
1,350 lin. ft. electric conduits, w. i., (g) ¾ in., flexible	0.17	0.18	0.20
554A—45 special conduit fittings and Rem. covers, each	0.10	0.95	1.50
555—171 c.-i. outlet boxes, each	1.00	0.50	1.00
556—16 c.-i. pull boxes, (e) 12 x 6 x 4 in., each	11.50	8.50	10.00
96 c.-i. pull boxes, (f) 6 x 6 x 4 in., each	1.35	1.50	2.00
32 c.-i. pull boxes, (h) 4 x 4 x 4 in., each	0.80	0.90	2.00
557—62 c.-i. heater boxes, each	20.00	11.75	15.00
558—23 steel panel board boxes, (h) 25 x 6 x 49 in. to 60 in., each	30.00	22.00	20.00
4 steel panel board boxes, (j) 50 x 6 x 49 in. to 60 in., each	45.00	33.00	35.00
1 steel panel board box, (k) 20¼ x 30 x 6 in., each	20.50	11.50	25.00
561—63,420 sq. ft. painting, (a) 2 coats—iron and steel	0.025	0.025	0.02
170,000 sq. ft. painting, (b) 3 coats—iron and steel	0.0275	0.03	0.025
468,500 sq. ft. paint., (c) 2 coats—plaster and cement	0.01625	0.0175	0.015
5,000 painting, (d) numerals, each	0.25	0.12	0.15
601L—6 vent openings—masonry walls, Sec. 219, each	0.15	20.00	100.00

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK.

Hoboken, N. J.—Keyport Drydock Co., incorporated with capital of $100,000 to construct, deal and lease vessels, drydocks, etc. Gilbert A. Williams, Keyport, Wm. S. Stuhr, Hoboken, interested.

Stone Harbor, N. J.—City contemplates issuing $24,000 bonds for adidtional jetties to protect ocean front from encroachment of the seas.

Angelica, Pa.—Plans being prepared by W. H. Dechant & Son, Bear Bldg., Reading, for constructing plant of the Angelica Water & Ice Co., to include filtration plant, pumping station ,and complete hydro-electric development of the water power rights owned by the company on Angelica Creek.

Philadelphia, Pa.—Geo. S. Webster, dir. Wharves, has issued statement showing fund of $10,000,000 available for construction of new wharves and bulkheads. Plans now being prepared for 2-story pier at foot of Kenilworth St., 550 ft. long and 180 ft. wide.

Philadelphia, Pa.—Bureau Yards & Docks, Navy Dept., Washington, D. C., contemplates constructing dry dock, 1000 x 100 ft., at League Island Navy Yard, Philadelphia.

Winchester, W. Va.—Northern Va. Power Co., Winchester, has won decision before Judge Woods in Circuit Court, Charleston, for rights on the Shenandoah River and contemplates extensive improvements to include raising of dam, etc.

Albemarle, N. C.—W. L. Cotton, Albemarle, representing capitalist, it is reported, is securing land and riparian rights with view of constructing power dam across Yadkin River for hydro-electric development.

Savannah, Ga.—City contemplates constructing wharf fronting on upper portion of Savannah Harbor, 75 x 400 ft., with 50 x 85-ft. tee connecting with shore; cost $17,000.

Mobile, Ala.—Louisville & Nashville RR. (W. H. Courtenay, ch. engr., Louisville, Ky.) contemplates constructing wharf, installing conveyors and dredging channel along wharves from Government to Theater St. to depth of 30 ft., rebuilding coal hoist, etc.; total estimated cost $280,000.

Portsmouth, O.—See "Roads and Paving."

Plymouth, Wis.—Preliminary surveys are being made by Jeremiah Donehue, engr., Sheboygan, for constructing dam across Mullett River in Plymouth for the Milwaukee & Fox River Ry. Co. (Geo. Brickbauer, pres.), also contemplates extending transmission line to Mt. Calvary and construct power plant, about 150 hp. to be developed.

St. Paul, Minn.—Tentative plans have been arranged by City and Chicago, Milwaukee & St. Paul RR. Co. (C. F. Loweth, ch. engr., Chicago), for constructing levee along north bank of Mississippi River from Sibley St. to Indian Mounds Park; cost, $750,000.

Lebanon, Mo.—Hydroelectric plant of 3000 hp. with 35-ft. head to be constructed on Nianga River near Lebanon. H. D. Hallet, engr., Aurora.

Beaumont, Tex.—South Texas Fair Assn. (J. B. Doty, dir.) contemplates constructing levee around Island Park for fair grounds, and bridge across Brakes Bayou and auditorium; cost, about $150,000.

San Angelo, Tex.—Application has been filed by San Angelo Water, Light & Power Co. for permit to construct dam across Concho River near here for impounding 80,000 acre-feet of water annually; cost, $12,000.

Colusa, Cal.—City contemplates constructing 560-ft. municipal wharf.

Fresno, Cal.—Plans of Louis C. Hill, Hollingworth Bldg., Los Angeles, have been approved by committee of thirty, Kings River Irrigationists, for constructing dam at Pine Flat for irrigation in district covering large portion of Fresno, Kings and Tulare Counties; cost $9,000,000.

Porterville, Cal.—County contemplates constructing levee on Tule River to protect city from overflow. B. O. Lovelace, co. surv.

BIDS DESIRED.

Perth Amboy, N. J.—Until Jan. 10, by Bd. Harbor Comrs. (Wilbur la Roe, secy.), for furnishing material and making repairs to city dock and bulkhead on Staten Island.

San Francisco, Cal.—Until Jan. 11, by Bd. State Harbor Comrs., for constructing State Pier No. 3, at foot of Washington St., 138 x 76 ft., passenger landing, 100 x 76 ft., bulkhead wharf, 423 x 45 ft. Frank G. White, ch. engr.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Philadelphia, Pa.**—Contract awarded by Pennsylvania RR. (Alex. C. Shand, ch. engr., Broad St. Station) to Chas. McDermott Co., Pennsylvania Bldg., at about $10,000, for alterations to Pier No. 2, Girard Point.

★**Lorain, O.**—Contract awarded by National Tube Co., Frick Bldg., Pittsburgh, to F. W. Mark Contr. Co., Leader Bldg., Cleveland, at $100,000, for reinforced concrete dock at Lorain.

★**Marion, Ark.**—Contract awarded by county to Ball & Peters, Memphis, Tenn., at $147,000, for constructing pile bridge 2½ miles long, from west end of Harahan bridge to St. Francis Levee, requiring 3400 piles and 2,000,000 ft. lumber.

★**North Vancouver, B. C.**—Contract awarded Jas. McDonald Co., Standard Bank Bldg., Vancouver, at $200,000 for constructing wharf and sawmills for Canadian Robert Dollar Co.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK.

Jersey City, N. J.—Plans being prepared by John A. Bensel, engr., 111 Bway., New York City, for proposed South Cove development; cost, about $750,000.

Rahway, N. J.—Linden, Rahway, Roosevelt and Woodbridge contemplates petitioning Federal Government to dredge Rahway River 9 ft. deeper.

Philadelphia, Pa.—Rincon Plantation Co., incorporated with capital of $135,000 for purpose of irrigation, etc. Arthur W. Britton, East Orange, N. J., Samuel B. Howard, 28 Nassau St., New York City, among incorporators.

Wilkesbarre, Pa.—Smith & Wells, engrs., Coal Exchange Bldg., acting for River Improv. Com. of Chamber of Commerce, estimates removal of about 500,000 cu. yd. material by means of dredges and steam shovels to widen Susquehanna River at Nanticoke Gorge, for lowering crest of floods in Wilkesbarre from 2 to 5 ft., at cost of about $250,000.

Statesville, N. C.—Snow Creek Drainage Dist. contemplates constructing drainage system comprising 1500 acres, 1150 acres to be reclaimed, to include canal 11 miles long, and 363,000 cu. yd. excav.; cost, about $30,000. W. D. Alexander, co. surv.

Salem, S. C.—Surveys are being made by S. W. Frescoln, drainage engr., U. S. Dept. Agriculture, and work will begin about March 1, for drainage of about 6000 acres of land between Black River and Pudding Swamp.

Bunnell, Fla.—Drainage District (I. I. Moody, chmn.), in southern part of St. Johns County has been organized for purpose of draining about 55,000 acres; cost $250,000. Peter Kendrich, engr., St. Augustine.

Jacksonville, Fla.—War Dept. recently issued permit for drainage district for Upper St. Johns River; district covers about 265,000 acres; about 80,000 additional acres will be benefited; district lies in counties of Brevard, Osceola, Orange and St. Lucie; cost about $2,500,000. Isham Randolph & Co., engrs., 208 S. La Salle St., Chicago, Ill. P. A. Van Agnew, atty. for dist.

Cloquet, Minn.—Drainage bonds for $41,500 have been sold.

Two Harbors, Minn.—Plans have been completed on drainage of about 5400 acres; cost $500,000. John P. Paulson, co. aud.

St. Ignatius, Mont.—Secretary of Interior has authorized Reclamation Service to reject bids received for earthwork in connection with Camas "A" canal Flathead Project., Mont., involving about 195,000 cu. yd. excav. as being in excess of engineer's estimate.

Wilmer, Tex.—Levee bonds for $48,000 have been voted in Dallas County Levee Dist. No. 1, for constructing levees east of Wilmer.

Lawton, Okla.—Lawton Irrigation Co. preparing plans for irrigation district near Ft. Sill reservation; cost, about $160,000. C. S. Pease, engr., Lawton.

Oklahoma City, Okla.—Drainage Dist. contemplates constructing diversion ditch to carry flood waters on N. Canadian River to S. Canadian River 40 miles long, 10 ft. deep, 60 ft. wide at bottom, 48 ft. on top, concrete gates and control work; cost $500,000. J. H. Larry, engr., Watonga, Okla.; E. E. Blake, atty.

Pendleton, Ore.—County contemplates irrigation of 1000 acres of land under Furnish Project, 1000 acres under Western Land and Irrigation Project, 500 acres under Umatilla Project, and 500 acres under West Extension.

Willows, Cal.—Glenn-Cadora, Prince Districts recently voted in favor of issuing bonds for constructing two pumping stations for watering about 18,000 acres, one to be located at Sidds Landing the other north of Princeton; cost, about $144,000.

BIDS DESIRED.

New York, N. Y.—Until Jan. 12, by R. A. C. Smith, comr. docks, Contract No. 545, Pier A, foot of Battery Pl., North River, New York, for dredging slip west side of Pier New 21, East River, foot of Dover St.; security $3,600.

Silver City, Miss.—Reported desired until Jan. 11, by J. H. Reed, pres. Atchfalya Drain. Dist., for constructing about 230,000 yd. open ditch in Yazzo Co.

Glenwood, Ia.—Until Jan. 18, by R. E. Humphrey, co. aud., for constructing 5.36 miles of Nishnabotna River ditch; work extends from Hendreson to Hastings; it includes 400,000 cu. yd. dirt excavation; certified check for 10 per cent to accompany each bid; plans may be obtained from Seth Dean, engr., or from Co. Aud.

Worthington, Minn.—Reported desired until Jan. 13, for constructing Judicial Ditch No. 3; work includes 24,110 ft., from 6 to 22-in. tile; cost about $13,749; also for Judicial Ditch No. 4; work includes, 40, 602, ft. from 6 to 22-in. tile; cost $22,294; plans may be obtained from Gus Swanberg, co. aud.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Kissimmee, Fla.**—Contract awarded by Taft Drainage Dist. to Edgar Chapman, Plant City, for constructing drainage system for about 64,000 acres, for which $146,000 bonds were recently issued.

Williamsport, Ind.—Reported desired until Jan. 15, for constructing drainage ditch. Address J. Rupert Gregory, drain. comr.

★**Arcola, Ill.**—Contract awarded by city to National Drain Tile Co., Terre Haute, Ind., at about $15,400, for improving ditches.

Blythe, Cal.—Following are bids opened by Palo Verde Mutual Water Co., for constructing intake gate, involving 1000 cu. yd. rock excav., 300 cu. yd. concrete, 47,000 lb. reinforcing steel, on Colorado River, timber control weir 90 ft. long on pile foundation requiring 55,000 ft. timber, 2.25 miles down stream from intake, timber sluice gate on pile foundation requiring 50,000 ft. timber 4 miles down stream from intake: Mesmer & Rice, 230 Marsh Strong Bldg., Los Angeles, $25,400; Mercereau Bridge & Constr. Co., Pacific Electric Bldg., Los Angeles, $27,980; Wm. Ledbetter Co., Pacific Electric Bldg., Los Angeles, $29,750; M. Duncan & Co., San Francisco, $33,859. J. C. Allison, engr., 819 Merchants' Natl. Bank Bldg., Los Angeles, and 209 Anderson Bldg., Calexico.

★**Oakland, Cal.**—Following are bids opened Dec. 27, by Col. T. H. Rees, U. S. Engr. Office, San Francisco, for 1,032,000 cu. yd. dredging by pipe, hydraulic dredge, about 3000 ft of pipe line required, material 60 per cent mud and sand (soft material) and 40 per cent hard material or hard pan: San Francisco Bridge Co., 14 Montgomery St., San Francisco, 7.4 cts. (awarded contract); American Dredging Co., 255 California St., San Francisco, 8.45 cts.; Standard American Dredg. Co., Oakland, 8.7 cts. (price given per cu. yd.)

TUNNELS AND SUBWAYS

PROPOSED WORK.

Hamden, O.—County Comrs., McArthur, O., Village of Hamden, and Baltimore & Ohio RR. (R. N. Begien, ch. engr., Baltimore, Md.), contemplate constructing crossing beneath RR. tracks, estimated to cost between $35,000 and $40,000. Dr. W. H. Henry, mayor.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Flint, Mich.**—Contract awarded by city to McClintic-Marshall Co., 58 Lafayette St., Detroit, at $13,594, for 185½ tons structural steel for subway under tracks of Pere Marquette RR. A. L. Graudy, ch. engr., Detroit.

MISCELLANEOUS

PROPOSED WORK.

Motor Equipment—New York, N. Y.—Bd. Estimate has appropriated $393,500 for motorizing equipment of 9th and 11th Sts., cleaning districts and purchasing motor finishers and collectors for Brooklyn and Bronx Boros.

Park Bonds—Atlantic Highlands, N. J.—At election held Dec. 29 town voted in favor of issuing $20,000 park bonds. Chas. R. Snyder, mayor; H. O. Todd, town engr.

Incinerator—Orange, N. J.—City Comn. conferring with Fred O. Runyon, engr., Maplewood, N. J., for estimate for installation of garbage incinerator at municipal power plant.

Retaining Wall, Etc.—Johnstown, Pa.—City contemplates constructing retaining wall, stadium, athletic field and improvements to playground, at cost of about $200,000. Henry F. Hornbostel, archt., 63 William St., New York, N. Y.

Incinerator—Parnassus, Pa.—Chester & Fleming, hydraulic and sanitary engineers, Union Bank Bldg., Pittsburgh, Pa., have been engaged to prepare plans and specifications for garbage incinerating plant.

Incinerator—Charleston, S. C.—City contemplates constructing garbage incinerator.

Transmission Line, Etc., Montgomery, Ala.—Montgomery Light, Heat & Power Co. (Harry D. Fruneauff, gen mgr.), contemplates constructing two 875 kw. units, and two 1500 units, one sub-station, rebuilding transmission lines, etc.; cost $125,000.

Incinerator—New Orleans, La.—City contemplates constructing chain of garbage incinerators throughout city capable of destroying 40 tons of garbage a day. Martin Behrman, mayor.

Transmission Line—Hazard, Ky.—Plans are being prepared by Kentucky River Light & Power Co., Hazard, for extension of its transmission lines to First Creek, Typo and Lennut to supply coal mining towns.

Transmission Line—Republic, O.—Election held recently to issue $10,000 bonds for the installation of an electric-lighting system was carried. Part of proceeds will be used to erect transmission line to Bloomville, a distance of 4½ miles, where it will connect with the Tiffin-Shelby transmission line of the Ohio Light & Power Co., Newark and remainder for local distribution system.

Park Bonds—Des Moines, Ia.—Park bonds for $135,000 have been sold.

Park Improvements—Eveleth, Minn.—Council contemplates improving Athletic Park; cost $15,000.

Transmission Line—Spooner, Minn.—Minn., Dakota & Western Ry. Co., International Falls, contemplates erecting electric transmission line from Spooner to Goodridge, where it will be connected with the Thief River Falls electric lines.

Transmission Line—Victoria, Minn.—Waconia (Minn.) Light & Power Co. has been granted franchise to erect a transmission line into village of Victoria.

Park Improvements — Kendall, Okla.—Town recently voted $15,000 park improvement bonds. Geo. H. Coe, town clk.

Fill—Spokane, Wash.—Plans being prepared by Morton McCartney, city engr., for constructing fill on Washington St.; cost $15,000.

Fill—Tacoma, Wash.—D. H. White, co. engr., has been instructed by Co. Comrs. to prepare plans for constructing 2 miles trestle from 11th St. across tide flats, at cost of $15,000; also for alternative plans for fill covering same ground, cost $40,000.

Oregon City, Ore.—See "Roads and Paving."

Reduction Works—Oatman, Ariz.—Contract will be let early in spring by Big Jim Gold Mining Co. (A. G. Keating, supt.) for constructing 400-ton reduction works. Hind & Johnson, engrs.

BIDS DESIRED.

Hoists—Albany, N. Y.—Until Jan. 9, by W. W. Wotherspoon, Supt. Pub. Wks., Albany, Contract No. 155, Erie Canal, Sec. 2, for furnishing and installing 7 hoists for operation of bulkhead gates in north end of Vischer Ferry Dam; cost, about $9,998; plans may be seen at office Asst. Supt. Pub. Wks., Syracuse, or at office Asst. Supt. Pub. Wks., Western Div., Rochester, and at canal office, Spaulding's Exchange, Buffalo, as well as at the Supt.'s office, Albany.

Fire Hydrants—Atlantic City, N. J.—Until Jan. 18, by Bd. Comrs. (J. B. Thompson, dir.), for high-pressure fire hydrants; certified check for $1,000 to accompany bid; plans from L. Van Gilder, engr., and Supt. Water Wks., Atlantic City. Advertised in this issue.

Refrigerating Machine—Augusta, Ga.—Until Jan. 11, at office of custodian, Augusta, for installing refrigerating machine in U. S. post office and court house; advertised in this issue.

Riprap—Memphis, Tenn.—Until Jan. 15, by Mississippi River Comn., U. S. Engr. Office, Custom House, Memphis, for furnishing about 25,000 tons raprap stone.

Wall—Peru, Ind.—Reported desired until Jan. 9, by P. L. Bell, city clk., City Hall, for constructing concrete wall; cost, about $26,547. E. D. Lockridge, engr.

Fill—Detroit, Mich.—Reported desired until Jan. 9, by Russell A. Murdock, engr., 706 Free Press Bldg., for leveling about 80,000 sq. yd. clay fill.

Hydraulic Freight Lift—Salt Lake City, Utah.—Until Jan. 25, by Jas. A. Wetmore, superv. archt., Treas. Dept., Washington, D. C., for installing hoistway, hydraulic freight lift, etc., in U. S. post office in this city.

Transmission Line—Keyport, Wash.—Until Jan. 18 (readvertisement) at Bureau Yds. & Docks, Washington, D. C., for constructing electric power transmission line from Olympic Power Company's pole line to radio building at Keyport.

PRICES AND LETTINGS

★*Indicates award of contract.*

New York, N. Y.—Following are bids opened Dec. 21, by J. T. Fetherston, Comr. Street Cleaning, Municipal Bldg., for equipment and appliances required for removal of snow and ice during winter season of 1916-1917: Daniel Rogge, 3071 Perry Ave., Bronx, 39.99 cts.; Model Contr. Co., 264 W. 34th St., 40 cts.; Fred. Schneider, Westchester Ave. & Bronx River, 41½ cts.; Jas. F. Smionelli, 15 Charlton St., New York City, 50 cts.; price given per cubic yard. All bids rejected as being too high.

★**Barges—Memphis, Tenn.**—Bid of American Bridge Co., Pittsburgh, Pa., at $52,800, for constructing three steel sand barges recommended for acceptance. Bids opened Dec. 21 by Maj. M. J. McDonough, Corps Engrs., U. S. A., Memphis.

Proposals

For Proposals Advertised See Pages 66-67-68

WATER WORKS AND SEWERAGE SYSTEMS.

Bids Close.		See Eng. Record.
Jan. 9.	Independence, La.	Dec. 16
Jan. 9.	Dakota, Ia. Adv. Dec. 30.	Dec. 30
Jan. 9.	Ft. Worth, Ind.	Jan. 6
Jan. 9.	Boston, Mass.	Jan. 6
Jan. 10.	Marlow, Okla.	Dec. 30
Jan. 10.	Cambridge, O.	Dec. 30
Jan. 11.	Swanton, O.	Jan. 6
Jan. 11.	Milwaukee, Wis. Adv. Dec. 23 to Jan. 6.	Dec. 23
Jan. 11.	Sidney, O. Adv. Dec. 30, Jan. 6.	Dec. 30
Jan. 12.	Flint, Mich.	Dec. 30
Jan. 12.	Yuma, Ariz.	Dec. 30
Jan. 12.	Louisville, Ky.	Jan. 6
Jan. 15.	Alton, Ill.	Jan. 6
Jan. 15.	Cordell, Okla.	Dec. 30
Jan. 15.	Albany, Mo.	Jan. 6
Jan. 15.	Smiths Falls, Ont.	Jan. 6
Jan. 16.	Toronto, Ont.	Dec. 9
Jan. 16.	Park Ridge, Ill.	Jan. 6
Jan. 17.	La Fayette, Ind.	Dec. 23
Jan. 17.	Brooklyn, N. Y.	Jan. 6
Jan. 18.	Alliance, O. Adv. Dec. 30, Jan. 6.	Dec. 30
Jan. 18.	Muscatine, Ia.	Jan. 6
Jan. 23.	Dows, Ia.	Jan. 6
Feb. 5.	Rockwell City, Ia.	Dec. 9
Feb. 5.	St. Paul, Minn. Adv. 23.	Dec. 23
Mar. 6.	Chilton, Wis.	Dec. 2
Apr. 1.	Gibson, Ill.	Dec. 23
Apr. 1.	Mt. Vernon, O.	Dec. 23
Jun. 1.	Calcutta, India	Dec. 23
———	Douglas, Wyo. Adv. Dec. 16.	Dec. 23

STRUCTURAL STEEL WORK

Jan. 10.	Olathe, Kan.	Dec. 23
Jan. 10.	Chicago, Ill. Adv. Dec. 23, 30.	Dec. 23
Jan. 10.	Freehold, N. J.	Dec. 30
Jan. 10.	Fresno, Cal.	Jan. 6
Jan. 12.	Columbus, O.	Jan 6
Jan. 13.	Dayton, O.	Dec. 23
Jan. 13.	Lafayette, Ala.	Dec. 30
Jan. 15.	Yonkers, N. Y.	Dec. 30
Jan. 16.	Warrensburg, Mo.	Jan. 6
Jan. 17.	York, S. C.	Jan. 6
Jan. 17.	Riverside, Cal.	Jan. 6
Jan. 18.	Knoxville, Ia.	Dec. 23
Feb. 1.	Bucyrus, O.	Jan. 6
Feb. 1.	Galion, O.	Jan. 6

REINFORCED CONCRETE.

Jan. 9.	York, Neb.	Dec. 23
Jan. 10.	Rock Island, Ill.	Dec. 30
Jan. 12.	El Centro, Cal.	Jan. 6
Jan. 16.	Nevada, Ia.	Jan. 6
Jan. 17.	Manhattan Beach, Cal.	Jan. 6
Jan. 20.	Greenup, Ill.	Dec. 30
Jan. 22.	Houston, Tex.	Dec. 30
Jan. 22.	Los Angeles, Cal.	Jan. 6
Jan. 30.	Nashville, Tenn.	Jan. 6

ROADS AND PAVING.

Jan. 9.	Bakersfield, Cal.	Dec. 30
Jan. 9.	Modesto, Cal.	Dec. 30
Jan. 9.	Ardmore, Okla.	Jan. 6
Jan. 9.	Hanford, Cal.	Jan. 6
Jan. 10.	Wrightsville, N. J.	Jan. 6
Jan. 10.	Independence, Ia.	Nov. 18
Jan. 10.	Freehold, N. J.	Dec. 16
Jan. 10.	Baltimore, Md.	Dec. 30
Jan. 10.	Seattle, Wash.	Dec. 30
Jan. 10.	Jackson, Ky.	Jan. 6
Jan. 11.	New Albany, Ind.	Dec. 30
Jan. 11.	Kansas City, Kan.	Dec. 23
Feb. 12.	Irvine, Ky.	Jan. 6
Jan. 13.	Valley City, N. D.	Jan. 6
Jan. 15.	Everett, Wash.	Dec. 30
Jan. 15.	Paintsville, Ky.	Jan. 6
Jan. 15.	Kissimmee, Fla.	Jan. 6
Jan. 15.	Bakersfield, Cal.	Jan. 6
Jan. 16.	Park Ridge, Ill.	Jan. 6
Jan. 16.	Amsterdam, N. Y.	Dec. 30
Jan. 16.	Wilkes-Barre, Pa.	Dec. 23
Jan. 16.	Bristow, Okla.	Jan. 6
Jan. 18.	Linden, Ala.	Jan. 6
Jan. 19.	Keyport, N. J.	Jan. 6
Jan. 19.	Pretonsburg, Ky.	Jan. 6
Jan. 20.	Lakeland, Fla. Adv. Jan. 6.	Jan. 6
Jan. 22.	Upland, Cal.	Dec. 30
Jan. 24.	Pikeville, Ky.	Jan. 6
Jan. 25.	Lake Charles, La.	Jan. 6
Jan. 25.	Norton, Va.	Jan. 6
Jan. 26.	Salyersville, Ky.	Jan. 6
Jan. 29.	Hindman, Ky.	Jan. 6
Jan. 29.	Gainesville, Fla.	Jan. 6
Jan. 31.	Ravenna, O.	Jan. 6
Feb. 1.	Appalachia, Va.	Jan. 6
Feb. 1.	Cedar Rapids, Ia.	Nov. 18
Feb. 1.	Cicero, Ill.	Dec. 30
Feb. 6.	Neshanic, N. J.	Dec. 30
Mar. 18.	Kent, O.	Dec. 30

RAILWAYS

Jan. 10.	New York, N. Y.	Dec. 30

INDUSTRIAL PLANTS AND WAREHOUSES.

Feb. 5.	Vallejo, Cal.	Jan. 6

BUILDINGS.
Public and Private.

Jan. 9.	Sonyea, N. Y. Adv. Dec. 23 and Jan. 6.	Dec. 23
Jan. 9.	East St. Louis, Ill.	Jan. 6
Jan. 10.	St. Jean de Dieu, Que.	Dec. 9
Jan. 10.	Akron, O.	Dec. 23
Jan. 10.	Cincinnati, O.	Dec. 23
Jan. 10.	Rockford, Minn.	Jan. 6
Jan. 12.	Somerset, O.	Jan. 6
Jan. 15.	Morgantown, W. Va.	Jan. 6
Jan. 15.	Fresno, Cal.	Jan. 6
Jan. 15.	Dillon, Mont.	Jan. 6
Jan. 15.	Lima, O.	Dec. 16
Jan. 15.	San Angeleo, Tex.	Jan. 6
Jan. 15.	Comfrey, Minn.	Dec. 23
Jan. 15.	Indian Head, Md.	Dec. 23
Jan. 15.	Sioux City, Ia.	Jan. 6
Jan. 15.	Bakersfield, Cal.	Jan. 6
Jan. 15.	Refugio, Tex.	Jan. 6
Jan. 16.	Aspinwall, Pa.	Dec. 30
Jan. 17.	Albany, N. Y. Adv. Dec. 23, Jan. 6.	Dec. 23
Jan. 16.	Jonesboro, Ark.	Jan. 6
Jan. 18.	Marion, S. C. Adv. Nov. 25, Dec. 2.	Nov. 25
Jan. 18.	Leesburg, Ga.	Jan. 6
Jan. 18.	West Chester, Pa.	Jan. 6
Jan. 19.	Wenatchee, Wash.	Jan. 6
Jan. 19.	Charlotte, Mich.	Dec. 16
Jan. 21.	Philadelphia, Pa.	Dec. 30
Jan. 22.	Richfield, Utah	Dec. 16
Jan. 22.	Fremont, Neb.	Dec. 23
Jan. 23.	Charlestown, W. Va.	Jan. 6
Jan. 24.	Minot, N. D.	Jan. 6
Jan. 26.	Waterloo, N. Y.	Dec. 30
Jan. 27.	Jacksonville, Fla.	Jan. 6
Feb. 1.	Peoria, Ill.	Jan. 6
Feb. 1.	Chehalis, Wash.	Dec. 16
Feb. 12.	Moultrie, Ga.	Jan. 6
Feb. 14.	Morgantown, W. Va.	Jan. 6
Feb. 15.	Escanaba, Mich.	Dec. 30
Feb. 16.	McComb, Miss.	Jan. 6
Feb. 19.	Barnesville, Ga.	Jan. 6
Mar. 1.	Rochester, Minn.	Jan. 6
May 1.	Minneapolis, Minn.	Nov. 25

FOUNDATIONS, PIERS AND DAMS.

Jan. 10.	Perth Amboy, N. J.	Jan. 6
Jan. 11.	San Francisco, Cal.	Jan. 6
Jan. 15.	Williamsport, Ind.	Jan. 6
Jan. 16.	New Orleans, La.	Dec. 30
Jan. 24.	Port Aransas, Tex. Adv. Dec. 30, Jan. 6.	Dec. 30
Jan. 24.	New Orleans, La.	Dec. 30
Jan. 29.	Philadelphia, Pa.	Dec. 23

EXCAVATION, DREDGING AND DRAINAGE.

Jan. 9.	Fremont, Mich.	Dec. 23
Jan. 10.	Monticello, Mo.	Dec. 23
Jan. 11.	Silver City, Miss.	Jan. 6
Jan. 12.	New York, N. Y.	Jan. 6
Jan. 13.	Worthington, Minn.	Jan. 6
Jan. 15.	Philadelphia, Pa.	Dec. 23
Jan. 18.	Glenwood, Ia.	Jan. 6
Jan. 20.	Gaylord, Minn.	Dec. 23
Jan. 23.	Rockwell City, Ia.	Dec. 23
Jan. 25.	Crookston, Minn.	Dec. 16
Jan. 29.	Norfolk, Va. Adv. Dec. 30, Jan. 6.	Dec. 30
Feb. 1.	Coalinga, Cal.	Dec. 23

MISCELLANEOUS.

Jan. 9.	Broken Stones, Vallejo, Cal.	Dec. 30
Jan. 9.	Motor Fire Apparatus—Atlantic Highlands, N. J. Adv. Dec. 16.	Dec. 16
Jan. 9.	Hoists, Albany, N. Y.	Jan. 6
Jan. 9.	Wall, Peru, Ind.	Jan. 6
Jan. 9.	Fill, Detroit, Mich.	Jan. 6
Jan. 10.	Cylinder Gates, St. Ignatius, Mont. Adv. Dec. 23.	Dec. 23
Jan. 10.	Cranes, Appleton, Wis. Adv. Dec. 30.	Dec. 30
Jan. 11.	Refrigerating Machine, Augusta, Ga. Adv. Jan. 6.	Jan. 6
Jan. 15.	Riprap, Memphis, Tenn.	Jan. 6
Jan. 18.	Fire Hydrants, Atlantic City, N. J. Adv. Jan. 6.	Jan. 6
Jan. 18.	Transmission Line, Keyport, Wash.	Jan. 6
Jan. 25.	Lift, Salt Lake City, Utah.	Jan. 6

Farmers 27 Per Cent Richer Than Last Year From Principal Crops

New Incorporations for 1916 Exceed All Recent Years—Refinery Prices Estimated for Recent Asphalt Letting

IN SPITE of the fact that in every case, except those of hay and tobacco, the total production of our nine crops which average above a hundred millions in annual value fell either far below last year's total or the average of the past five years, the farmers of the country realized 27½ per cent. more on these crops than on those of the big year of 1915. The farm value of these nine crops, as estimated in the latest crop report of the Department of Agriculture, reaches the staggering total of $7,429,000,000, as compared with $5,747,000,000 realized from the far larger crops in 1915 and an average value of $5,020,000,000 for the five years prior to 1915. While the high prices which make this remarkable condition possible are largely paid by home consumers, and may therefore have a depressing effect by reducing to that extent the general purchasing power in markets for other products, there is no doubt that these extraordinary earnings should stimulate much construction work. They furnish a sound basis for taxation and bond issues for all sorts of public improvements. Road construction, drainage and reclamation work and other public work can be financed on a large scale with such farm revenues as a basis.

It must not be forgotten also that farmers in the aggregate are large consumers of cement, lumber and many other building materials. With the farmers' buying power increased in the startling manner indicated by this report, it is only to be expected that the demand for such materials will be great. This is especially true of the South, whose cotton and tobacco crops alone are worth almost twice those of 1915. This factor by itself would doubtless be sufficient to prevent any drop in the cost of many construction materials. Combined with other causes, it is likely to result in further rises as spring opens.

That a better volume of construction work is to be looked for in 1917 is also indicated by the prevailing general confidence in the present business activity. New securities issued in this country during the first 11 months of 1916 have been equaled by only one like period since the panic of 1907. These securities, amounting to $2,074,000,000, do not include any of the foreign loans offered in this country, which are estimated at an additional $1,380,000,000. New corporations with a capital of $1,000,000 or more formed in the Eastern section of the country during the first 11 months of this year have a total capitalization of $2,478,000,000, which considerably exceeds the sum of like incorporations for any complete calendar year since 1907.

Recent Asphalt Letting

The refinery prices of various companies bidding on the supply of 200 tons of asphalt to the Borough of Brooklyn, New York City, have been estimated by deducting shipping charges from the prices bid. The prices per ton arrived at in this way are given in the following table:

Kind of asphalt	Location of refinery	Bid price per ton	Price per ton f.o.b. refinery
Bermudez	Maurer, N. J.	$30.68	$27.00
Trinidad	Maurer, N. J.	21.80	19.00
Oil	Warners, N. J.	19.48	17.06
Oil	Bayonne, N. J.	21.00	18.38
Oil	Port Arthur, Tex.	23.50	16.29

The weight used in computing the refinery prices per ton includes packages, while the weight on which the bid price is based is net.

Buildings

Building work noted in this issue is summarized in the following table:

	Kind	Cost
Contracts awarded:		
New York City	Institution buildings	$401,000
New York City	Subway stations	390,000
Philadelphia, Pa.	Office building	200,000
Philadelphia, Pa.	Apartment house	600,000
Cleveland, Ohio	Packing plant	475,000
Chicago, Ill.	School	400,000
Iowa City, Iowa	School buildings	189,000
Sioux City, Iowa	Packing plant	225,000
Helena, Mont.	Apartment house	200,000
Bid desired:		
New York City	Subway stations	240,000
Byberry, Pa.	Institute buildings	632,000
Bids desired:		
Seattle, Wash.	Power plant	390,000
Proposed work:		
Springfield, Mass.	Manufacturing plant	400,000
New York City	Apartment house	900,000
Atlantic City, N. J.	Convention hall	2,500,000
Media, Pa.	School	250,000
Media, Pa.	Asylum	1,500,000
Allentown, Pa.	Court house	1,000,000
Toledo, Ohio	Museum	400,000
Tucson, Ariz.	Hotel	350,000
Port Angeles, Wash.	Pulp mill	750,000
Manteca, Cal.	Sugar plant	2,000,000

Roads and Paving

Proposed road work continues to come out in large volume. Projects noted in this issue include the following:

	Kind	Cost
Contract awarded:		
Brownwood, Tex.	Roads	$100,000
Bid desired:		
Clintwood, Va.	Paving	60,000
Proposed work:		
Riverhead, N. Y.	Highways	510,000
New York, N. Y.	Wood block	80,000
Taylorsville, N. C.	Bonds sold	150,000
Wayne, Pa.	Bonds sold	100,000
Clarendon, Va.	Highways	120,000
Cincinnati, Ohio	Paving	200,000
Cleveland, Ohio	Paving	2,000,000
Harlan, Ky.	Highways	75,000
Jonesboro, Tenn.	Highways	762,000
North Chicago, Ill.	Paving	120,000
Grayville, Ill.	Paving	120,000
Ontonagon, Mich.	Highways	195,000
Laurel, Miss.	Paving	100,000
Greenville, Miss.	Bonds sold	950,000
New Orleans, La.	Wood block	750,000
Crowley, La.	Bonds voted	400,000
Rock Rapids, Iowa	Highways	70,000
Dallas, Tex.	Paving	2,000,000
Waxahachie, Tex.	Asphalt	300,000
Hamilton, Mont.	Bonds sold	150,000
Okanogan, Wash.	Highway	93,000
Toronto, Ont.	Bitulithic	176,000

Waterworks and Sewers

Waterworks and sewer construction noted in this issue includes the following:

	Kind	Cost
Contracts awarded:		
Philadelphia, Pa.	Reservoir and pipe line	$100,000
York, Pa.	Waterworks improvements	80,000
Salem, Ill.	Sewer system	62,000
Seattle, Wash.	Water mains	67,000
Bids opened:		
New York City	Sewers	145,000
New York City	Sewers	160,000
Proposed work:		
Atlanta, Ga.	Waterworks improvements	200,000
Huntington, W. Va.	Trunk sewer	100,000
Rock Island, Ill.	Sewers	75,000
Grand Rapids, Mich.	Sewer system	120,000
Bay City, Mich.	Waterworks	850,000
Iowa Falls, Iowa	Sewers and waterworks	100,000
Fort Madison, Iowa	Sewer system	200,000
Stuart, Iowa	Sewer system	75,000
Montreal, Que.	Waterworks	180,000
St. Catharines, Ont.	Sewer system	75,000

Miscellaneous Headings

A contract has been awarded at Gallipolis, Ohio, for constructing two government locks at a total cost of $1,158,000. A contract for building a breakwater to cost $360,000 has been awarded at Indiana Harbor, Ind. Bids have been received at Providence, R. I., for construction costing $133,000 preliminary to building a waterworks dam. Viaduct construction proposed at Buffalo, N. Y., will cost $300,000. A railroad tunnel under consideration at Reading, Pa., is estimated to cost $1,250,000. Plans are being prepared for two bridges to cost $350,000 at Williamsport, Pa. Another bridge under consideration at West Conshohocken, Pa., will cost $250,000. The Norfolk & Western Railway, according to a report from Roanoke, Va., will spend $662,000 for bridge construction this year. Harbor improvements at Savannah, Ga., which will cost approximately $2,000,000, have been recommended.

Plans are being prepared for drainage work to cost $280,000 at Paducah, Ky. The construction of a $150,000 viaduct is contemplated at Birmingham, Ala. Plans are being prepared for a $100,000 street bridge at Dayton, Ohio. A belt railway company with $10,000,000 capital has been incorporated at St. Paul, Minn. Drainage work estimated at $650,000 is being surveyed near Benson, Minn. A $250,000 drainage project is under consideration at Thief River Falls, Minn. It is reported that the Department of the Interior will build at $152,000 reinforced-concrete bridge and a $119,000 steel bridge near Buckeye, Ariz. An ordinance providing for the construction of an $800,000 tunnel has been passed at Los Angeles, Cal. Viaduct construction and grade-separation work estimated to cost $5,900,000 are under consideration at Toronto, Ont. Additional construction for power development to cost $9,000,000 has been authorized at Niagara, Ont. Contracts are soon to be let for constructing a $1,000,000 steel bridge at Edmonton, Alta.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Where name of official is not given inquiries should be addressed to City Clerk, County Clerk or corresponding official.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK.

Skowhegan, Me.—City planning waterworks construction. B. A. Sawyer, mgr.

Southbridge, Mass.—Southbridge Water Supply Co. plans extending water system; cost about $21,000.

East Rochester, N. Y.—See "Roads and Paving."

Herkimer, N. Y.—It is proposed to construct about 18 miles of 14 and 16-in. c. i. pipe, or 16 and 18-in. wood stave, by day labor; also two reservoirs of 47,000,000 gal. capacity, each to be let by contract. No time yet set for receiving bids. R. E. Horton, engr., Albany. A. T. Clark, res. engr.

Ogdensburg, N. Y.—Election March 13 to vote $60,000 for construction of waterworks. Address boro. clk.

Camden, N. J.—City Council approved appropriations of $110,000 for water department and $112,000 for street improvements during the coming year

Hopewell, N. J.—City planning installation of sewage disposal plant; cost about $35,000. H. A. Smith, mayor.

Montclair, N. J.—Town Comrs. will probably soon consider question of municipal ownership of waterworks.

Passaic, N. J.—City Comn. plans improving Paulson Ave. with sewer, gutters and sidewalks; cost, about $90,000.

Princeton, N. J.—Boro. Council considering installation of sewage disposal plant.

Philadelphia, Pa.—Water Bureau (Carleton E. Davis, ch.) plans to increase capacity of pumping stations at Queens Lane and Gardners Point by installation of 25 000,000 and 35,000,000 gal. units, respectively; contracts for additions awarded; also planning to increase the capacity of the Torresdale pumping plant.

Pennsylvania.—Following permits have been issued by State Dept. of Health at Harrisburg for sewer work:
Sayre—Sewage treatment plant.
Prospect Park—Sewer extension and tentative scheme for treatment works.
Hanover Township—Luzerne Co.-District sewer system and sewage treatment works.

Ringtown, Pa.—Public Service Comm., Harrisburg, has granted the Boro. permission to construct and operate a municipal water plant.

Wilkes-Barre, Pa.—See "Structural Steel."

Huntington, W. Va.—City reported considering construction of trunk sewer down either 10th, 11th or 12th Sts., to serve downtown business district and south side; cost about $100,000. O. H. Wells, city comr.

Greenville, N. C.—City planning election to issue $52,000 bonds for waterworks.

Atlanta, Ga.—City planning following improvements: Pump at river station, filter basins, dam across Chattahoochee River, enlarging intake pipes, etc. Cost about $200,000.

Augusta, Ga.—City Council will be asked to consider early the question of additional water supply, including new water mains and reservoir. Nisbet Wingfield, comr. pub. wks.

Ashland, Ky.—City planning waterworks and electric light plant improvements to cost $50,000.

Irvine, Ky.—City voted $10,000 bonds for sewer system. Contracts will be let in 30 days.

Prestonsburg, Ky.—Town voted additional $10,000 bonds to be used for waterworks improvements during 1917.

Winchester, Ky.—Waterworks improvement bonds for $180,000, including construction power house, pumping station, and two 1,500,000-gal. pumps, will be sold Jan. 25 by City Council.

Mechanicsburg, O.—City planning waterworks improvements. W. W. Stover, Columbus, and H. B. Stevens, Urbana, engrs.

Springfield, O.—Reported a movement is on foot looking to construction of sewage disposal plant along Mad River.

Bay City, Mich.—Burns & McDonnell, Kansas City, Mo., completed report on proposed waterworks for city and estimate total cost at $850,000, divided as follows: For 36 and 24-in. c. i. pipe line, $296,000; 4 low-service pumps, $33,000; settling basin, $45,000; filters and filter house with equipment, $200,000; high service pump with daily capacity of 10,000,000 gal., $37,500; four 200-hp. tubular boilers, $29,000; piping at plant, $10,000; submerged river crossings, two 24-in. flexible joint pipes, $30,000; c. i. pipe, $72,000; new feeder line, $35,000; meters, $20,000.

Grand Rapids, Mich.—Plans reported completed for construction of southwest sewer system in 12th ward, as an outlet for Burton Heights district; cost about $120,000. L. D. Cutcheon, gen. mgr., Bd. Pub. Wks.

Danville, Ill.—Contracts will be let for 3 brick sewers early this spring; estimate $17,000. W. H. Martin, city engr.

Grayville, Ill.—City planning the installation of about 8000 ft. of 12 to 42-in. pipe, 35 brick manholes and 135 inlets. G. W. Courter, engr., Mt. Carmel.

Rock Island, Ill.—City Council planning extensive sewer improvement in south dist.; cost about $75,000: 12-in. leads on 12th and 9th Sts. for a mile, with 2 outlets to Mississippi River. Septic tank will be installed later.
Following public improvement confirmed by County Court:
Water mains on Mill St., $2,547: septic tank 18th Ave. Dist., $16,457. Wallace Treichler, city engr.

Silvis, Ill.—County Court confirmed assessment roll for 8-in. sewer and 6-in. water main projecting Silvis, 7th, 11th Sts. and 4th to 5th Aves.; cost $9,667. Geo. Long, attorney.

Ankeny, Ia—Reported city planning to spend $12,000 for waterworks and $13,000 for sewer system during 1917.

Anthon, Ia.—Reported city planning sewer improvements; cost $10,500.

Cedar Rapids, Ia.—Plans being prepared by T. F. McCauley for sanitary sewers on 1st Ave. and 30th St.; work includes about 3000 ft. 6-in. and 4000 ft. 8-in. pipe. Contracts will be let in the spring. L. J. Storey, city clk.

Ft. Madison, Ia.—Reported city planning sanitary sewer system; cost $200,000.

Garner, Ia.—Reported city planning sewer system; cost $40,000.

Lawler, Ia.—Reported city planning sanitary sewer system; cost $20,000.

Norwood, Ia.—Reported city planning sewer system; cost $25,000.

Iowa Falls, Ia.—Reported city planning sewer and water extensions; cost $100,000.

Stuart, Ia.—Reported city planning sanitary sewer system; cost $75,000.

Wilton, Ia.—Contracts will soon be let for installation of sewer system. C. H. Jacobson, mayor.

St. Paul, Minn.—City Council considering the construction of sewers as follows: Margaret, 3rd, 4th, 5th, 6th, Grantham, Louth, Blair, Charlton, Palace, Wyoming, Griggs and Winona Sts.; Branston, Hendsdon Aves. and Johnson Parkway.

La Crosse, Kan.—Election recently held for $40,000 bonds carried for waterworks. Stevens & Stiles, engrs., 221 Commerce Bldg., Kansas City, Mo.

Larned, Kan.—City planning installation of sewer mains, laterals and pumping plant; cost about $25,000. Black & Veatch, engrs., 507 Interstate Bldg., Kansas City, Mo.

Scobey, Mont.—Election will soon be held on the question of issuing $75,000 bonds for waterworks.

Joplin, Mo.—Plans being prepared for 9600 ft. 15 to 27-in. pipe sewers and 3700 ft. 34 to 78-in. concrete sewer. J. B. Hodgdon, comr. streets and pub. improv.

Earle, Ark.—City considering installation of sewer system. H. C. Crum, city recorder.

Dallas, Tex.—See "Roads and Paving."

Houston, Tex.—City Council passed an ordinance authorizing $100,000 bond issue, $75,000 to be used for constructing water plant at Caroline St.; mains to connect the plant with the city system, will be purchased out of an appropriation of $40,000 from the general fund which was also authorized by Council. Street improvements contemplated with remaining $25,000.

Lockney, Tex.—City engaged H. E. Elrod, Interurban Bldg., Dallas, to prepare plans for waterworks.

Terrell, Tex.—City considering the construction of 200,000-gal. reservoir.

Ada, Okla.—City planning extensions to water and sewer systems. Benham Engineering Co., Colcord Bldg., Oklahoma City.

Georgetown, Col.—City planning election to issue bonds for installation of sewer system.

Seattle, Wash.—Reported H. W. Carroll, city comptroller, has passed resolution providing for installation of water mains in portions of 25th Ave. South; cost $30,000. L. B. Youngs, supt. water dept.

Canby, Ore.—City voted $18,000 bonds to construct waterworks.

Portland, Ore.—Legislature to be asked to pass bill giving city and county authority to jointly construct trunk sewers to drain certain areas. There are now pending 3 large sewer projects. Plans call for the extension of these trunk sewers into territory outside of city, which may within the near future become a part of Portland.

Alhambra, Cal.—City considering installation of sewer system during 1917. Walter M. Eddy, city clk.

Hanford, Cal.—Edward M. Lynch, Glendale, has prepared plans for improvements to waterworks; cost, about $44,000; money to be raised by bond issue.
Hanford Water Co. to sell $10,700 bonds for laying 8600 ft. 8 and 12-in. water mains.

Seal Beach, Cal.—City voted $40,000 bonds for waterworks and $35,000 bonds for sewer system.

Nezperces, Idaho.—Reported contracts will soon be let for constructing sanitary sewer system; cost $35,000. Geo. Sawyer, engr., Spokane, Wash.

Montreal, Que.—Plans being prepared by E. Drinkwater, engr., 588 Boulevard Desaulniers, St. Lambert, for water system, including filtration plant, pumping equipment and mains; cost $180,000.

Dundas, Ont.—City considering construction of trunk sewers and connections with sanitary sewer system and sewage disposal works; cost about $55,995. J. S. Fry, city clk.

Hamilton, Ont.—Bond issue for $360,500 to provide for additional machinery for Beach Pumping Station has been defeated. Andrew F. Macallum, city engr.

Lindsay, Ont.—City Council planning a sewage disposal plant. D. Ray, clk.

St. Catharines, Ont.—W. P. Near, city engr., submitted following estimates for constructing sewers in Facer St. Dist.; Sanitary sewers, $23,900; storm sewers, $27,000; pump plant, $7,000; disposal works, $18,000.

St. Marys, Ont.—A. B. Manson, city engr. of Stratford, estimated cost of new sewer system for St. Marys at $17,721. Thos. M. Clark, town clk.

Trail, B. C.—Surveys now being made by A. L. McCulloch of Nelson for waterworks improvements, including reconstruction of distributing system by using larger mains; Cambridge Creek and Violin Lake to be used as a source of supply by gravity to 1,000,000-gal. distribution reservoir. Surveys also being made for a new sewer system. Crude sewage to be discharged into Columbia River.

BIDS DESIRED.

Brooklyn, N. Y.—Until Jan. 18 by L. H. Pounds, pres. Boro. Brooklyn, Room 2, Boro. Hall, Brooklyn, for furnishing and delivering manhole heads and covers, etc., for year 1917; security 30 per cent.

New York, N. Y.—Until Jan. 22, by Marcus M. Marks, boro. pres., for making wash boring at foot of E. Forty-first St. in connection with Cont. No. 2, for tunnel relief sewer and appurtenances in portions of E. Forty-first St. and Madison Ave.; security $1,000. Alteration and improvements to sewer in Eleventh St., together with manholes, rock excav., etc.; security $7,000.

Hanover, Pa.—Until Jan. 24, by Frank C. Rowe, secy. bd. co. coms., for constructing about 19 miles vitr. and concrete and segment pipe sewers from 8 to 39 in. in diam. with manholes, flush manholes, etc. Bids desired as a whole or on one or more of the three sections. Plans on file at office of Boyle & Howe, township engrs., Bennett Bldg., Wilkes-Barre, or at office of Clyde & Potts, engrs., 30 Church St., New York City.

Philadelphia, Pa.—See "Misc."

Baltimore, Md.—Until Jan. 17, by Bd. Awards (John Hubert, pres.), for furnishing and delivering c.-i. pipe and fittings, galvanized iron pipe and fittings, brass service pipe fittings, miscellaneous iron castings and lead-lined wrought iron pipe, from Jan. 17 to June 30, 1917, adv. in this issue; specifications may be obtained from Walter E. Lee, water engr., City Hall, Baltimore, upon payment of $5; certified check for one-tenth amount to accompany each bid.

Pineville, Ky.—Until Jan. 28, for waterworks and street improvements; expenditure about $50,000; address T. J. Asher, co. judge.

Akron, O.—Until Jan. 19, by C. F. Beck, dir. pub. serv., City Hall, for constructing sewers on portions of Brook, Wildwood, Hoye and numerous other streets; also for grading portions of Hammel and Gridley Aves., certified check for $100 to accompany each bid.

Cincinnati, Ohio.—Until Jan. 18, by Chas. F. Hornberger, dir. pub. serv., for constructing sewers in Ellis and Stark Sts., Highland and Colerain Aves., certified check for $20 to accompany each bid; plans may be obtained from Dept. Pub. Serv. at $2 copy.

Detroit, Mich.—Until Jan. 22, at office of R. A. Murdoch, engr., 706 Free Press Bldg., Detroit, for furnishing about 16,000 ft. 4- and 6-in. class "B" (alternate class "C") c.-i. water pipe and special castings as per plans; also 21 fire hydrants and 42 4-in. and 6-in. valves and boxes; certified check for 5 per cent to accompany each bid.

Flint, Mich.—Until Feb. 6, by Bd. Water Comrs. (B. F. Miller, pres.), for Cont. No. 2 constructing additions to Water Purification Wks.; plans may be obtained from Bd. Water Comrs., City Hall, Flint, upon deposit of $100; certified check for 5 per cent to accompany each bid; advertised in this issue.

Springfield, Ill.—Reported desired until March 1, by city, for constructing 3½ miles 24-in. extension to waterworks; cost, about $85,000 or $100,000.

Watseka, Ill.—Until about March 1, by City, for constructing 1½-mile water mains.

Spirit Lake, Ia.—Until Jan. 25, by Angus MacDonald, co. aud., for 140 ft. 18-in., 410 ft. 15-in., 5500 ft. 12-in. corrugated pipe, Iowa Comn. Standard; advertised in this issue.

Toronto, Ont.—Until Jan. 16 by T. L. Church, mayor, chmn. Bd. Control, City Hall, for excavating, laying and joining 12-in. water pipes, valves and special castings; specifications may be obtained at office Water Main Extension Sec., Dept. Works, Room 320, City Hall, Toronto.

PRICES AND LETTINGS

★Indicates award of contract.

Long Island City, N. Y.—Following are lowest bids opened Dec. 29 by Pres. Queens Boro., Queens Subway Bldg., for constructing sewers in portions of Chichester, Beaufort, Portland, Herald, Guion and Atlantic Aves: Murphy Bros., Montague St., Brooklyn., $23,509; for same work in portions of Humphrey and McIntosh Sts. and Lyon Ave., Green Constr. Co., Long Island City, $10,192.

New York, N. Y.—Following are 4 lowest bids opened Dec. 29 by Pres. Boro. of Bronx for constructing sewers in portions of Westchester, Metcalf and Sound View Aves: S. Purificato, 434 E. 116th St., $11,-551; A. M. Hazell, Inc., 26 Cortlandt St., $11,825; Di Menna & Del Balso, 2336 Cambrelling Ave., $11,832; Briggs & McLoughlin, 1007 Trinity Ave., $12,584.

Long Island City, N. Y.—Following are totals and unit figures of 3 bids opened Dec. 29, by Maurice E. Connolly, pres. Boro. Queens, Queens Subway Bldg., for constructing sewers in portions of Collins Ave., Adriatic St. and Fresh Pond Rd.: (a) Murphy Bros., Montague St., Brooklyn, $144,887; (b) H. J. Mullen Contr. Co., Jamaica, $146,509; (c) Peace Bros., Flushing, $155,366.

	(a)	(b)	(c)
901 lin. ft. 7 ft. 6 in. reinforced concrete sewer	$30.60	$33.00	$36.00
2,055 lin. ft. 7 ft. reinforced concrete sewer	30.36	33.00	36.00
62 lin. ft. 5 ft. reinforced concrete sewer	24.60	20.00	20.00
303 lin. ft. 3 ft. 9 in. plain concrete sewer	15.60	14.00	14.00
354 lin. ft. 3 ft. 6 in. plain concrete sewer	12.50	12.00	12.00
488 lin. ft. 3 ft. plain concrete sewer	9.78	9.00	11.00
516 lin. ft. 2 ft. 6 in. plain concrete sewer	8.00	8.00	8.00
265 lin. ft. 24 in. vitr. pipe sewer	5.20	4.50	4.25
375 lin. ft. 22 in. vitr. pipe sewer	4.50	4.25	4.50
265 lin. ft. 20 in. vitr. pipe sewer	4.00	3.75	3.50
9 lin. ft. 18 in. vitr. pipe sewer	4.00	3.00	3.50
3 lin. ft. 15 in. vitr. pipe sewer	4.00	3.00	3.00
222 lin. ft. 12 in. vitr. pipe sewer	3.00	2.40	2.00
85 6 in. spurs, 24 in. long, on concrete sewer	0.50	1.00	1.00
18 6 in. spurs on 24 in. vitr. pipe sewer	5.00	5.00	3.00
33 6 in. spurs on 22 in. vitr. pipe sewer	4.00	4.25	3.00
18 6 in. spurs on 20 in. vitr. pipe sewer	4.00	3.25	3.00
18 6 in. spurs on 12 in. vitr. pipe sewer	1.00	1.25	1.00
1,257 ft. risers for house connections, including Y's	0.90	1.00	0.75
39 manholes, complete	180.00	125.00	90.00
47 basin manholes (new type), complete	96.00	75.00	100.00
68 inlets (new type), complete	42.00	30.00	40.00
1,665 lin. ft. 12 in. vitr. pipe for basin connections	1.50	1.50	2.00
1,100 lin. ft. 10 in. vitr. pipe for basin connections	1.20	1.25	1.00
1,540 lin. ft. 6 in. vitr. pipe for house connections	1.30	0.75	0.75
1 chamber at Collins Ave. and Adriatic St.	1,080.00	1,400.00	1,400.00
1 chamber at Fresh Pond Rd. and Adriatic St.	1,080.00	1,200.00	1,200.00
1 chamber at Fresh Pond Rd. and Winifred St.	720,00	1,200.00	1,100.00
1 chamber at Fresh Pond Rd. and Metropolitan Ave.	720.00	1,100.00	900.00
1 chamber at Fresh Pond Rd. and Ralph St.	720.00	750.00	500.00
1 drop chamber at Fresh Pond Rd. near Adriatic St.	480.00	600.00	300.00
5,000 ft. b. m. timber for bracing and sheet piling	32.00	30.00	20.00
5,000 ft. b. m. timber for foundation	41.00	40.00	40.00
500 lb. structural steel, exclusive of steel shown on plan	0.12	0.05	0.10
500 lb. reinforcing steel, exclusive of steel shown on plan	0.12	0.05	0.10
40 cu. yd. Class "A" conc., exclusive of conc. shown on plan.	8.00	8.00	7.00
7,900 cu. yd. displaced material for sewer embankment	0.20	0.30	0.50
2,350 lin. ft. of wooden fence	0.36	0.50	0.50

New York, N. Y.—Following are totals and unit figures of bids opened Dec. 28 by Pres. Boro. Bronx, Municipal Bldg., Crotona Park, for constructing sewers in portions of Throgs Neck Boule., Layton Ave., Eastern Boule. and Westchester Ave.—(A) with concrete beginning at the 8th item to the 14th inclusive, (B) with vitr. segment block, beginning at the 8th item to the 14th inclusive: (1) Anita Constr. Co., 2975 Marion Ave., Bronx, (A and B) $159,692; (2) New York & New Jersey Constr. Co., 30 E. 42nd St., (A) $204,422, (B) $202,092; (3) Desmond Constr. Co., 110 W. 34th St., (A) $289,789, (B) $283,938; (4) F. V. Smith, Westchester, N. Y., (A) only, $161,082; (5) O. Daniels Co., 233 Bway., (B) only, $148,605; (6) Davney Asphalt Co., 177th St. and Westchester Creek, (B) only, $172,771; (7) Santore Constr. Co., Times Bldg., (B) only, $176,102.

	(1)		(2)		(3)		(4)	(5)	(6)	(7)
	A	B	A	B	A	B	A	B	B	B
10 lin. ft. conc. sewer, 8 x 6 ft.	$20.00	$20.00	$30.00	$30.00	$40.00	$40.00	$25.00	$24.00	$35.00	$36.80
584 lin. ft. conc. sewer, 7 ft. 3 in. x 6 ft. 6 in.	20.00	20.00	30.00	30.00	38.00	38.00	25.00	23.00	33.50	37.13
378 lin. ft. conc. sewer, 6 ft. 9 in. x 6 ft. 6 in.	20.00	20.00	35.00	35.00	50.00	50.00	29.00	23.00	36.75	39.04
19 lin. ft. conc. sewer, 7 ft. x 6 ft.	19.00	19.00	35.00	35.00	45.00	45.00	22.00	22.00	29.90	30.78
950 lin. ft. conc. sewer, 6 ft. 3 in. x 6 ft. 6 in.	19.00	19.00	30.00	30.00	45.00	45.00	30.00	21.00	33.00	23.34
587 lin. ft. conc. sewer, 5 ft. x 6 ft.	18.00	18.00	23.00	23.00	34.00	34.00	17.00	19.00	26.75	16.92
433 lin. ft. conc. sewer, 3 ft. 9 in. x 5 ft. 8 in.	17.00	17.00	20.00	20.00	30.00	30.00	15.00	18.00	24.15	12.56
1,943 lin. ft. conc. sewer, 4 ft. 3 in.	15.00	15.00	20.00	19.50	21.00	20.00	10.00	11.00	16.40	12.38
648 lin. ft. conc. sewer, 4 ft.	14.00	14.00	18.00	17.70	20.00	19.00	9.00	10.00	7.50	11.18
695 lin. ft. conc. sewer, 3 ft. 6 in.	13.00	13.00	14.00	13.25	18.00	17.00	8.00	8.50	7.00	9.86
101 lin. ft. conc. sewer, 3 ft. 3 in.	13.00	13.00	13.00	12.40	18.00	17.00	8.50	8.00	6.50	9.34
538 lin. ft. conc. sewer, 3 ft.	13.00	13.00	12.00	11.00	17.00	16.00	8.00	7.50	5.75	9.94
53 lin. ft. conc. sewer, 38 in. x 50 in., eggshape.	13.00	13.00	12.00	11.00	25.00	24.00	8.00	15.00	8.00	12.23
54 lin. ft. conc. sewer, 32 in. x 44 in., eggshape.	13.00	13.00	10.00	9.00	22.00	21.00	8.00	13.00	6.25	9.58
624 lin. ft. vitr. pipe sewer, 30 in.	7.00	7.00	8.00	8.00	18.00	17.00	10.00	6.00	6.00	8.95
698 lin. ft. vitr. pipe sewer, 18 in.	6.00	6.00	6.00	6.00	14.00	14.00	6.00	5.00	3.00	8.38
560 lin. ft. vitr. pipe sewer, 15 in.	5.00	5.00	6.00	6.00	14.00	14.00	5.50	4.50	2.20	5.04
1,741 lin. ft. vitr. pipe sewer, 12 in.	4.06	4.06	6.00	6.00	13.00	13.00	5.00	4.00	2.00	4.30
405 lin. ft. basin connections	3.00	3.00	1.80	1.80	6.00	6.00	3.00	3.00	2.00	2.50
300 lin. ft. vitr. pipe drains, 12 to 24 in.	0.50	0.50	3.00	3.00	10.00	10.00	...	2.00	1.50	2.46
1,010 spurs, house connections	2.00	2.00	0.70	0.70	3.50	3.50	1.00	2.00	2.00	1.50
900 lin. ft. risers	1.00	1.00	1.50	1.50	1.00	1.00	2.00	0.50	1.00	1.18
93 manholes	50.00	50.00	70.00	70 00	85.00	85.00	65.00	50.00	80.00	126.50
18 receiving basins, Type B	175.00	175.00	175.00	175.00	150.00	150.00	160.00	160.00	120.00	315.00
2,850 cu. yd. rock excav.	3.00	3.00	2.00	2.00	3.75	3.75	3.50	3.00	1.00	2.65
150 cu. yd. Class B conc.	5.00	5.00	8 00	8 00	8.00	8.00	7.00	4.00	6.00	5.54
325 cu. yd. Class C conc.	5.00	5.00	7.00	7.00	8.00	8.00	6.00	6.00	7.00	5.27
6,000 lb. steel reinforcement bars	0.03	0.03	0.04	0.04	0 06	0.06	0.05	0.065	0.08	0.05
10,000 ft. b. m. timber sheeting	35.00	35.00	10.00	10.00	20.00	20.00	60.00	0.01	45 00	40.00
1 overflow chamber	5,000.00	5,000.00	7,000.00	7,000.00	5,000.00	5,000.00	4,000.00	6,800.00	3,500.00	3,000.00

Allentown, Pa.—Following bids opened by City for new pumps at waterworks: Worthington Pump & Machine Co., N. American Bldg., Philadelphia, $67,000; Hooven, Owens & Rentschler Co., Heaton and 4th Sts., Hamilton, O., $61,800 and $56,800; Allis Chalmers Mfg. Co., Milwaukee, Wis., $65,000.

★**Philadelphia, Pa.**—Contract awarded by New Chester Water Co. to J. Hanna & Sons, Chester, for reservoir and 18 to 24-in. c. i. pipe from reservoirs to Marcus Hook at about $100,000.

★**York, Pa.**—Contract reported awarded by City Water Comrs. to R. D. Wood Co., 400 Chestnut St., Philadelphia, for waterworks improvements at about $80,000.

★**St. Cloud, Fla.**—Contract awarded by City to Cornwall Constr. Co., Tampa., at $37,500 for sewer construction, and to Morgan Constr. Co., Attalla, Ala., at $4,000, for deep well.

★**Berwyn, Ill.**—Contract awarded by city to H. D. Hallett, 132 Downer Pl., Aurora, for constructing c. i. water supply pipe in Riverside Parkway, 26th and other streets.

Rock Island, Ill.—Contract awarded by city to P. F. Trenkinschuh, 1431- 14½ St., for constructing sewers and sewage treatment plant, at $16,445.

★**Salem, Ill.**—Contract awarded by city to Foulkes Contr. Co., Terre Haute, for sewer system and disposal plant, at $62,558.

★**Farmington, Minn.**—Contract awarded by City to Dearborn Constr. Co., Waterloo, Ia., at $19,003 for sewer system and $3,371 for disposal plant. Next 3 lowest bids: (a) sewer system, (b) disposal plant: A. A. Dobson Co., Lincoln, Neb., (a) $21,589, (b) $3,517; Wm. C. Fraser, St. Paul, (a) $22,000, (b) $2,495; E. L. Gedney Co., Minneapolis, (a) $22,828, (b) $3,475; work includes 22,340 ft. 8 to 15-in. pipe sewer, 42 manholes, 5 flush tanks and disposal tanks. J. F. Druar, engr., Commercial Bldg., St. Paul.

★**Higginsville, Mo.**—Contract awarded by city (bids opened Jan. 3) to O'Neil Constr. Co., Leavenworth, Kan., for constructing sewage disposal plant, sewer mains and outfalls at $21,499.

★**Ringling, Okla.**—Contract awarded by city to Mackintosh-Walton Co., 1023 State Bank Bldg., Oklahoma, for sewer system at $30,000.

★**Wilburton, Okla.**—Contract awarded by city to Mackintosh-Walton Co., 1023 State Bank Bldg., Oklahoma, for sewer system at $20,000.

★**Seattle, Wash.**—Contract awarded by Bd. Pub. Wks. to S. A. Moceri, 1212 S. M. St., Tacoma, for water mains in Carleton Park addition on Magnolia Bluff, at $66,660.

★**San Diego, Cal.**—Contract awarded by city (bids opened Nov. 20) to A. C. Hose, 3120 Herman Ave., for sewer system in University Heights at $31,500. Geo. Cromwell, city engr.

★**Sandwich, Ont.**—Contract awarded by Town Council to Merlo, Merlo & Ray for constructing water main and sewer on Center St., at $43,579.

STRUCTURAL STEEL WORK

PROPOSED WORK.

Devon, Conn.—Preliminary plans being made for replacing present Washington Bridge over Housatonic River between New Haven and Fairfield Cos. with 60 ft. wide structure, expense to be partly borne by Connecticut Ry Co. Victor S. Curtis, secy., 2d Natl. Bank Bldg., New Haven, Conn.

Buffalo, N. Y.—Estimated cost of constructing proposed viaducts over RR. tracks on seawall strip placed at $300,000, apportioned as follows: 75 per cent by Pennsylvania RR. (Alex. C. Shand, ch. engr., Broad St., Philadelphia, Pa.) and Lehigh Valley RR. (E. B. Ashly, ch. engr., 143 Liberty St., New York City); 15 per cent by Buffalo & Lake Erie Traction Co. (Geo. Bulloch, receiver, 61 Bway., New York City); 10 per cent by city of Buffalo (A. W. Kreinheder, bridge comr.). City and railroads considering advisability of immediately proceeding with construction work.

Castleton, N. Y.—Plans for New York Central RR.'s (G. W. Kittredge, ch. engr., Grand Central Terminal, New York City) bridge over Hudson River near here, calling for one 600-ft. span and one 400-ft. span, has been approved by Gen. Wm. M. Black, ch. U. S. Army Engrs., Washington, D. C.

North Tonawanda, N. Y.—See "Structural Steel, Prices and Lettings."

Glen Ridge, N. J.—Borough Council negotiating with Erie RR. (R. S. Parsons, ch. engr., 30 Church St., New York City) to construct new bridge on Sherman Ave. A. C. H. Nyland, chmn. Boro. Bridge Com.

Newark, N. J.—Bd. Wks. considering construction of bridges in vicinity of Ave. R, over tracks of Pennsylvania RR. (Alex. C. Shand, ch. engr., Broad St., Philadelphia, Pa.) and Lehigh Valley RR. (E. B. Ashley, ch. engr., 143 Liberty St., New York City). M. R. Sherrerd, city engr.

Salem, N. J.—Contracts will soon be awarded for lump sum or in 3 parts for constructing from revised plans Penn's Neck bridge, for which $72,000 bid on original plans in 1916 was rejected; part of cost will be borne by trolley company, providing cost does not exceed $55,000. H. B. Keasbey, co. engr.

Brownstown, Pa.—Pennsylvania RR. (Alex. C. Shand, ch. engr., Broad St., Philadelphia), intends replacing present steel bridge over tracks with new one, also constructing 6-ft. span bridge at Branch St.

Philadelphia, Pa.—Bd. Pub. Wks. contemplates constructing $400,000 bridge over Schuylkill River at South St.

Pennsylvania. — Following applications have been approved by State Water Supply Comn, Harrisburg, Pa., for constructing bridges:

New Castle, Lawrence Co., Pulaski Twp., over run about 1 mile northwest of New Bedford.

Franklin, Venango Co., over Tarkiln run, ¼ mile east of East Sandy (Van P. O.), about 700 ft. above mouth of Tarkiln run at East Sandy Creek, Cranberry Twp

Greenburg, Westmoreland Co., Loyalhanna Twp., over Gettys run, about 3 miles southwest of Saltsburg on Johnson Rd.; Salem Twp., over unnamed stream, 1.25 miles west of New Alexandria, about 100 ft. to left of Wm. Penn Highway, Route No. 187.

Pennsylvania RR. (Alex. C. Shand, ch. engr., Broad St., Philadelphia, Pa.), following 3 bridges with concrete piers and abutments and steel superstructures: (1) over Mahoning Creek at Allegheny River, Armstrong Co., (2) over Red Bank Creek at Allegheny River, Clarion and Armstrong Cos., (3) over Clarion River at Allegheny River, Clarion Co

West Conshohocken, Pa.—County has under consideration construction of bridge over Schuylkill River, between here and East Conshohocken, at estimated cost of $250,000. Address Co Clk., Norristown.

Wilkes-Barre, Pa.—B. K. Finch, city engr., recommends in his annual report replacing with more substantial ones, present bridge at South St. with one at or near present one from Washington St. to Park Ave. and present Hazel St. bridge with one on Hazel St. near McLean Ave.; completing Solomon's creek and east and sewer improvements; relaying on concrete foundation all bricks now in poor condition; new sewer in 15th Ward; setting all curbs in concrete where not so at present time.

Roanoke, Va.—Norfolk & Western Ry. (J. E. Crawford, ch. engr., Roanoke, Va.) has appropriated $661,800 for bridge construction during 1917.

Fairmont, W. Va.—Bridge bonds for $760,000 will be sold Jan. 22; J. Walter Barnes, comr.

Yorkville, S. C.—Contracts will probably be awarded first week in February for constructing $40,000 bridge over Catawba River at foot of Cherry Road almost directly between Rock Hill and Ft. Mill and between townships of Ebenezer and Ft. Mill. Thos. W. Boyd, co. superv.

Savannah, Ga.—Preliminary surveys being made by W. C. Lemen, resident ass't. U. S. engr., E. R. Conant, city engr., and W. F. Brown, co. engr., to suggest site on which to construct proposed bridge over Altamah River to connect city of Savannah with section south and southwest of it; engrs. may also survey Savannah River with same object in view, but to connect city with section north of it.

Savannah, Ga.—County Comrs. have designated 5 grade crossings in county to be eliminated either by constructing bridges or subways and are now in consultation with RRs. affected by their decision. W. F. Brown, co. engr.

De Land, Fla.—Plans being prepared by Ellis, Curtis & Kooker, engrs., Jacksonville, Fla., for interests represented by Michael Sholz, Daytona, Fla., to construct steel toll bridge 500 ft. long and 18 ft. wide, on wood and concrete pile foundations, over St. Johns River at Crows Bluff.

Birmingham, Ala.—Louisville & Nashville RR. (F. A. Busse, bridge engr., Louisville, Ky.) and Southern Ry. (A. B. Ilsley, bridge engr., Washington, D. C.) and city of Birmingham (Julian Kendrick, city engr.) intend constructing $150,000 viaduct; contracts will probably be awarded about Feb. 28.

Covington, Ky.—See "Railroads."

Ludlow, Ky.—Viaduct bonds for $15,000 will be sold Jan. 18 by city; W. B. Cullen, city clk.

City Council intends selling $15,000 bonds, its share to construct proposed Elm St. viaduct, toward which Cincinnati, Newport & Covington Lt. & Traction Co. (G. M. Abbott, secy., 1st Natl. Bank Bldg., Cincinnati, O.) will pay $9,000, and Cincinnati, New Orleans & Texas Pacific Ry. (C. Dougherty, ch. engr., Cincinnati, O.), $2,000.

Canton, O.—Contracts will soon be awarded by county for constructing 90-ft. span bridge, 16 ft. wide, with through girder and pin connected trusses, creosoted plank and block floor. J. L. Sickafoose, co. surv.

Cincinnati, O.—County Comrs. intend constructing $100,000 bridge over Miami River at foot of Broadway, replacing Cincinnati St. bridge, which was destroyed by 1913 flood. Wm. Boch, co. engr.

Dayton, O.—Plans being prepared by Victor Smith, co. engr., for constructing $100,000 bridge over Miami River at foot of Bway., which will replace Cincinnati St. structure, destroyed by 1913 flood.

Mechanicsburg, O.—Plans being prepared by Raymond H. Smith, engr., Urbana, O., for constructing bridge with minimum length of 75 ft., and with 24 ft. roadway paved with brick, asphalt or asphaltic concrete, for State Highway Dept., Columbus, O.

Springfield, O.—Clark County sold on Jan. 2 $60,000 bridge improvement bonds.

Youngstown, Ohio.—In conjunction with Erie RR.'s (R. S. Parsons, ch. engr., 30 Church St., New York City) grade crossing elimination by constructing bridge over RR. tracks, which bridge is contemplated being used by Mahoning & Shenango Ry. & Lt. Co. (R. P. Stevens, pres., Youngstown, Ohio), Frank M. Lillie, city engr., favors extension of Elm St. to Commerce St., and widening latter street 70 ft. City will bear 35 per cent of grade crossing elimination expense.

Richmond, Ind.—County will probably sell $180,000 bridge bonds in February. L. S. Bowman, co. aud.

Friendship, Wis.—County intends constructing 1000-ft. I-beam bridge in town of Rome and 650-ft. I-beam bridge in town of Richfield. John McGregor, co. highway comr., Hancock, Wis.

Boone, Ia.—Plans being prepared by J. A. Illeman, co. engr., for 70-ft. skew pony truss span and 60-ft. pony truss span bridges, both with 18-ft. roadways and concrete floors and abutments.

State Bd. RR. Comrs. considering petition for construction of viaduct over tracks of Chicago, Milwaukee & St. Paul RR. (C. F. Loweth, ch. engr.), Chicago, Ill.

Chariton, Ia.—Plans being prepared by J. W. Mercer, co. engr., for constructing following bridges: 40-ft. pony truss span, 16-ft. roadway; 80-ft. skew pony truss span, 18-ft. roadway; 20-ft., 24-ft. and 30-ft. I-beam spans, all with 18-ft. roadways; each with concrete floors and abutments.

Cherokee, Ia.—Plans being prepared by J. F. Chapman, co. engr., for two 70-ft., one 65-ft., one 45-ft., one 40-ft., one 40-ft. skew, pony truss span bridges; all with concrete floors and abutments.

Dakotah, Ia.—Plans being prepared by L. D. Snyder, co. engr., for one 70-ft. and one 65-ft. pony truss span bridges, both with 16-ft. roadways and concrete floors and abutments.

Northwood, Ia.—Plans being prepared by F. R. Lyford, co. engr., for 6 1-beam span bridges from 18 to 26 ft. long with 18 to 20-ft. roadways and concrete floors and abutments.

Primghar, Ia.—Plans being prepared by J. C. Kerrigan, co. engr., for following bridges: One 65-ft., one 50-ft. and one 40-ft. pony truss spans, all with 18-ft. roadways; 32-ft. I-beam span, 20-ft. roadway; 20-ft. concrete slab span, 18-ft. roadway; each with concrete floors and abutments.

Rockwell City, Ia.—Plans being prepared by W. E. McClure, co. engr., for bridge with two 100-ft. spans, 18-ft. roadway and concrete floor and abutments.

Toledo, Ia.—Plans being prepared by A. R. Hebenstreit, co. engr., for following I-beam span bridges: One 32-ft., one 22-ft. and one 20-ft., all with 18-ft. roadways; 32-ft. with 24-ft. roadway; 26-ft. with 16-ft. roadway; each with concrete floors and abutments; also one 20-ft. and one 18-ft. concrete slab span, both with 18-ft. roadways.

Duluth, Minn.—County considering construction of bridge over St. Louis River, between here and Fond du Lac; estimated cost $50,000.

St. Paul, Minn.—In conjunction with Great Northern Ry.'s (A. H. Hogeland, ch. engr., St. Paul, Minn.) construction of proposed bridge over Mississippi River, RR line is contemplated to extend around city to relieve congestion in local freight yards and depot; total estimated cost $2,000,000.

St. Paul, Minn.—City Council considering construction of bridge over Mississippi River at 19th St. and issuing $500,000 bonds to cover cost of same. F. W. Cappelen, city engr., A. P. Ortanist, chmn. council.

Yutan, Neb.—Douglas (Omaha, co. seat) and Saunders (Wahoo, co. seat) Counties will each pay quarter and State Highway Comn., Lincoln, half of expense for constructing proposed $98,000 bridge over Platte River, near here; contracts will be awarded in spring.

St. Louis, Mo.—City intends holding election in May to vote $8,500,000 bonds; $2,000,000 will be used to construct viaducts and part of remainder to construct proposed boulevard along River des Peres. E. R. Kinsey, dir., Bd. Pub. Serv.

Holdenville, Okla.—County will probably not award contracts before May for work proposed with $50,000 road bonds and $33,000 bridge bonds, recently sold by Wetumpka township. A. J. Johnson, co. clk.

Seattle, Wash.—Plans being prepared by Chas. E. Fowler, engr., Central Bldg., for plate girder bridge over Lake Washington canal at Latona, for Puget Sound Traction, Light & Power Co.

City will vote at March 6 election on question of issuing $275,000 bonds for construcing steel and reinforced concrete bridge over Lake Washington canal at Montlake Boule., also $450,000 for bascule steel bridge over West Waterway at Spokane St. A. H. Dimock, city engr.

Corning, Cal.—Citizens considering asking Bd. Supervs. to submit to voters at coming election for proposed court house, separate bond issue of $120,000 to construct bridge over Sacramento River at Squaw Ferry, west of city.

Riverside, Cal.—Edw. L. Mayberry, Pacific Elec. Bldg., Los Angeles, Cal., has prepared plans for proposed bridge which will replace present Victoria bridge, at estimated cost of $40,000 to $44,000.

Buckeye, Ariz.—See "Reinforced Concrete."

Toronto, Ont.—City has under consideration following improvements: Esplanda viaduct, $5,000,000; Queen St. high level bridge, $100,000; grade separation, N. Toronto, $600,000; grade separation No. 1, $200,000. T. Bradshaw, comr.

Edmonton, Alta.—Contracts will soon be awarded by Edmonton, Dunvegan & British Columbia and allied Rys. (J. R. McArthur, pres., Winnipeg, Man.) for constructing $1,000,000 steel bridge over Peace River, north of town of Peace River.

Victoria, B. C.—Harbor Com. has recommended to City Council that election be held this month to vote $40,000 for reconstructing movable steel span on Rock Bay bridge and repairing approaches to same.

BIDS DESIRED.

Philadelphia, Pa.—Until Feb. 6, by Lighthouse Inspector, Philadelphia, for 3 structural steel towers, for Marcus Hook Range Front, Chester Range Front and Chester Range Rear Light Stations, Del. and Pa.; advertised in this issue.

Until Feb. 7, by Lighthouse Inspector, Philadelphia, for erecting 3 steel lighthouse towers for Marcus Hook Range Front, Chester Range Front and Chester Range Rear Light Stations, Del. and Pa.; advertised in this issue.

Ada, Minn.—Reported desired until Jan. 29, for constructing 38 concrete and steel bridges and 42 culverts, across judicial ditch No. 53; cost of bridges about $34,200, cost of culverts about $18,900. D. E. Fulton, co. aud.

Wadena, Minn.—Until Jan. 29, by joint board of Cass and Wadena, at Court House, Wadena, for constructing State Bridge No. 2384, on Judicial Rd., where Crow Wing River crosses county line, between above-mentioned counties, superstructure three 80-ft. spans, 18-ft. roadway, concrete floor on concrete foundation, distance from bottom of floor to bottom of foundation 15 ft. 5 in.; certified check for 5 per cent, payable to Co. Treas., to accompany each bid; plans may be obtained at State Highway Comn., St. Paul, as well as at above-named counties.

Schuyler, Neb.—Reported desired until Feb. 5, by W. Hugh Fletcher, co. clk., for yearly contract for constructing steel and concrete bridges; certified check for $500 to accompany each bid; bond for $2,000 to be furnished on award of contract.

Wayne, Neb.—Until Feb. 6, by Chas. W. Reynolds, co. clk., for constructing following bridges: 40-ft. girder, between secs. 31 and 32, twp. 26, range 3; 16 ft. I-beam, between secs. 26 and 27, twp. 26, range 2; 60-ft. steel span, between secs. 15 and 22, twp. 27, range 3; bids to be made on both 15 and 20-ton capacity; certified check for $250 to accompany bid; plans may be obtained from State Engr., Lincoln.

PRICES AND LETTINGS

★Indicates award of contract.

★**North Tonawanda, N. Y.**—Contract awarded by New York Central RR. (G. W. Kittridge, ch. engr., Grand Central Terminal, New York City) to New York State Dredging Corp., 17 Battery Pl., New York City, for constructing double-track bascule bridge and its piers and abutments over Tonawanda Creek at Webster St.; also substructure of highway bridge at same place, superstructure plans of which are now being prepared by F. M. Williams, state highway engr., 55 Lancaster St., Albany, N. Y.

★**Trenton, N. J.**—Contract awarded by Pennsylvania RR. (Alex. C. Shand, ch. engr., Broad St., Philadelphia, Pa.) to Braun & Stewart Co., Commercial Trust Bldg., Philadelphia, Pa., at $20,000, for constructing steel bridge at Whiteroad Road.

★**Ashland, O.**—Contract awarded by county (bids opened Jan. 5) to Brookville Bridge Co., Brookville, O., at $8,467, for construction and permanent replacement of Hostetler bridge in Mifflin township. Geo. J. Brubaker, co. clk.

★**Appleton, Wis.**—Contract awarded by Chicago & Northwestern RR. (W. H. Finley, ch. engr., Chicago, Ill.) to W. W. Gaffin, 268 Sheboygan St., Fond du Lac, at $35,000, for reconstructing bridge over Fox River.

★**Storm Lake, Ia.**—Contracts awarded on Dec. 20 by Co. Bd. Supervs., for bridge and culvert work, as follows: Iowa Bridge Co., Des Moines, Ia., $47,417; Reynolds Bros., Storm Lake, Ia., $35,731; Federal Bridge Co., Des Moines, Ia., $21,348; Western Bridge & Constr. Co., Omaha, Neb., $12,595; H. A. Holmes, Storm Lake, $12,583; Nels Jensen, Storm Lake, Ia., $10,896.

★**Wichita, Kan.**—Contract awarded by county to Missouri Valley Bridge Co., Leavenworth, Kan., for constructing 4 bridges (one 10 ft., one 14 ft., one 16 ft., and one 62 ft.) in Salem and Delano Townships. Edgar V. Moore, co. engr.

REINFORCED CONCRETE

PROPOSED WORK.

New London, Conn.—County Comrs. have under consideration constructing with State aid concrete bridge with lift span over mouth of Niantic River, for which plans have been prepared by Yates & Yates, 120 Bway., New York City.

New York, N. Y.—See "Buildings."

Pennsylvania. — Following applications have been approved by State Water Supply Comn., Harrisburg, Pa., for constructing concrete bridges:

Dept. Pub. Wks. (Geo. E. Datesman, dir.), Philadelphia, bridges A and B, over Cobbs Creek on Cobbs Creek Parkway, near 63d St. and Kingsessing Ave.

Pennsylvania RR. (Alex. C. Shand, ch engr., Broad St., Philadelphia, Pa.), concrete arch bridge over Big Pucketa Creek, ¼ mile from Allegheny River, Westmoreland and Allegheny counties.

Williamsport, Pa.—Duplicate plans being prepared by H. C. Reeder, engr., Williamsport, Pa., for Newberry-DuBoistown and Montgomery bridges over Susquehanna River at Williamsport and Montgomery, respectively, which will have concrete arches and steel spans on concrete foundations on piles, will be submitted to War Dept., Gen. Wm. Black, ch. engr., Washington, D. C., State Water Supply and Public Service Comns., Harrisburg, Pa., for their approval as to clearance, waterway, railroad and road crossings; total estimated cost $350,000, for which contracts will probably be awarded about Aug. 1.

Baltimore, Md.—Plans for constructing, at estimated cost of $35,000, 80-ft. long reinforced concrete bridge, 70 ft. wide, with two 40-ft. spans and clearance of 16 ft., over third sect. of Key Highway at Burrows St., as extension of Fort Ave., has been laid before Municipal Art Comn. (Josiah Pennington, chmn.) for its approval, in conjunction with widening of Fort Ave. from Lawrence St. to Ft. McHenry. H. K. McCay, harbor engr.

Asheville, N. C.—Estimated cost of proposed approach to recently constructed $75,000 concrete bridge in West Asheville, placed at $40,000. Address secy., City Comrs.

Montgomery, Ala.—Central of Georgia Ry. (C. K. Lawrence, ch. engr., Savannah, Ga.) and city of Montgomery intend constructing reinforced concrete bridge 250 ft. long with 20-ft. driveway and two 6½-ft. sidewalks. E. J. Divinney, city engr.

Memphis, Tenn.—Southern RR. (B. Herman, ch. engr., Washington, D. C.) and city of Memphis (Leo Goodman, comr. pub. utilities) intends constructing $15,000 reinforced concrete bridge, 66 ft. wide with 10-ft. sidewalks on each side, at Monroe Ave., replacing present steel and wooden structure. Carroll P. Cooper, executive general agent of railroad.

Milwaukee, Wis.—Plans being prepared for erecting store, garage and tire repair building for Standard Racine Rubber Co., care F. J. Ramler, 150 Oneida St. Structure to be of reinforced concrete, brick facing, Bedford stone trimming, fireproof construction. O. C. Uehling, engr., 509 First National Bank Bldg.; cost $90,000.

Sauk City, Wis. — Reported Farmers' Packing Co. (O. W. Haun, Madison, Wis.) will erect packing plant of mill construction and reinforced concrete; cost $60,000.

Cedar Rapids, Ia.—Quaker Oats Co. (Geo. Laird, Mgr.) has purchased site and will erect 10-story, 80 x 100 brick, reinforced concrete and fireproof warehouse; cost about $140,000.

Reported Elmer A. Higby, Granby Bldg., plans erecting 4-story 60 x 140 ft. brick and reinforced concrete, fireproof, store and office building, to cost $70,000.

Charles City, Ia.—Plans being prepared by G. H. Elliott, co. engr., for following concrete bridges: two 30 ft. deck girder span, 18 ft. roadway; two 20 ft. slab span, 20 ft. roadway; three 70 ft. reinforced arch span, 24 ft. roadway.

Toledo, Ia.—See "Structural Steel."

Minneapolis, Minn.—Geo. H. Christian, 404 S. 8th St., will erect 5-story steel, brick and reinforced concrete warehouse building at 901 3rd St., N.; cost $110,000.

Reported S. T. McKnight Co., 1236 McKnight Bldg., will erect 10-story brick, stone and reinforced concrete warehouse; cost $129,000.

Carl Junction, Mo.—County intends constructing 60-ft. concrete slab bridge with asphalt floor surface over stream 2 miles north of here on Kansas branch of Jefferson Highway between Joplin, Mo., and Pittsburg, Kan. Address Co. Clk., Carthage, Mo.

Kansas City, Mo.—Preliminary plans for proposed ornamental concrete bridge, 80 ft. long, with 60 ft. roadway, for street car and vehicle traffic, to replace pile structure at 43d St. and Mill Creek, are under consideration by the Park Board and Kansas City Rys. Co.'s Bd. of Control, Philip J. Kealy, pres.

Seattle, Wash.—Reported V. W. Voorhess, Inc. Eitel Bldg., plans erecting 6-story and basement reinforced concrete apartment house faced with terra cotta, on 5th Ave., near Lenora St.; cost $125,000.

El Centro, Cal.—Plans completed for reinforced concrete intake gate 745 ft. long and 60 ft. wide, on Colorado River, for Imperial Irrigation Dist.; cost $200,000.

Los Angeles, Cal.—Plans being prepared by H. C. Hengels, Milwaukee, Wis., for erecting 2-story and basement reinforced concrete, brick and hollow tile, 62 x 240 ft., bottling plant, at Washington St. and Compton Ave., for Arrowhead Springs Co. F. W. Handschy, mgr., 801 S. Hill St.

Bd. Supervs. considering construction of $100,000 concrete bridge, 900 ft. long, over Big Tejunga at Sunland, on new state road, also another but smaller one over Little Tejunga.

Santa Barbara, Cal.—Tentative plans have been prepared by A. B. Cook, city engr., for constructing concrete causeway on east boule. with concrete pile foundation and concrete floor.

Buckeye, Ariz.—Indian Service of Dept. of Interior intends constructing 18-span reinforced concrete bridge, costing about $152,076, and an 11-span steel bridge, costing about $119,448, over Gila River, providing Co. Bd. Supervs., Phoenix, will share expense.

London, Ont.—Beattie Bros., manufacturers of iron products, are preparing plans for erecting white brick and reinforced concrete foundry; cost $50,000.

BIDS DESIRED.

Bolton, Conn.—See "Paving."

Norristown, Pa.—Until Jan. 25, by Wm. D. Heebner, controller, Court House, for constructing 1 span concrete arch bridge over Schuylkill Canal at Mont Clare; advertised in this issue.

Earlington, Ky.—Until Jan. 26, for erecting concrete tipple for St. Bernard Coal Co.; cost about $10,000.

Hemphill, Ky.—Until Jan. 27, for erecting concrete tipples for Elk Horn By-Product Coal Co., here; cost about $10,000. W. M. Pursiful, Hazard, Ky.

Sac City, Ia.—Until Jan. 17, at office County Aud., for constructing 4 reinforced concrete box culverts, 14 I-beam spans with concrete floors and abutments, and 54 ton reinforcing steel; also one 45-ft. pony-truss span, 18-ft. roadway, one 40-ft. pony-truss span, 16-ft. roadway, and one 70-ft. pony-truss, 18-ft. roadway, all with concrete floors and abutments. W. D. Maxwell, co. engr.

Wayne, Neb.—Until Feb. 12, by Chas. W. Reynolds, co. clk., for constructing concrete arch between Secs. 10 and 15, twp. 26, range 3, length 12 ft., roadway 18 ft., concrete slab 12 ft. long, and 18-ft. roadway, between Secs. 14 and 15, twp. 25, range 1; concrete slab, 18 ft. long, and 18-ft. roadway, between Secs. 18, twp. 27, range 2, and 13, twp. 27, range 1; certified check for $250 to accompany each bid; plans may be obtained from State Engr., Lincoln.

Kansas City, Mo.—Until Jan. 23, by Bd. Pub. Wks., for constructing reinforced concrete viaduct on 27th St., between The Paseo and Highland Aves.; specifications may be obtained from City Engr., City Hall, as well as from Hedrick & Hedrick, 506 Interstate Bldg., Kansas City, upon deposit of $15.

Seeley, Cal.—Until Jan. 29, by State Highway Comn. Sacramento, for constructing 330 ft. reinforced concrete bridge across New River near Seeley. Plans at office of Div. Engr., San Francisco, and Los Angeles.

PRICES AND LETTINGS

★Indicates award of contract.

★**Kearny, N. J.**—Contract awarded D. W. McGee Constr. Co., Lembeck Ave., Newark, for erecting two brick and reinforced-concrete additions to plant of Seaboard By-Products Coke Co. on meadows; cost $50,000.

Kearney, N. J.—See "Industrials."

★**Cleveland, O.**—Contract awarded by Terminal Building Co. to Blome Sinek Co., City Hall Sq. Bldg., Chicago, Ill., and Equitable Bldg., New York City, N. Y., for erecting reinforced concrete branch building for Armour & Co.; cost about $250,000.

★**Chicago, Ill.**—Contract awarded Blome Sinek Co., City Hall Sq. Bldg., for erecting reinforced preparatory seminary on Rush St., from Pearson St. to Chestnut St., for Catholic Archbishop of Chicago Z. T. Davis, 64 E. Van Buren St. Cost about $400,000.

Milwaukee, Wis.—General contract awarded Geo. W. Stiles, 209 S. La Salle St., Chicago, for erecting 3-story and basement 110 x 440 ft. reinforced concrete dock and freight house at Broadway and Erie Sts. for Chicago, Racine & Milwaukee Steamship Line. E. W. Seymour, Pres.; cost, $250,000.

★**Sioux City, Ia.**—Contract awarded Blome Sinek Co., City Hall Sq. Bldg., Chicago, Ill., and Equitable Bldg., New York, N. Y., for erecting reinforced concrete sheep killing and oleo bldg. for Armour & Co.; cost about $225,000.

★**Storm Lake, Ia.**—See "Structural Steel."

Concordia, Kan.—Following are 4 lowest bids opened Jan. 2 by county for constructing 9 reinforced concrete bridges: Western Bridge Co., Harrisonville, Mo., $13,974; John Todd, Glasco, Kan., $14,990; Canton Bridge Co., Kansas City, Mo., $15,871; E. A. Stimson, Topeka, Kan., $16,738. Geo. C. Guilbert, co. clk.

★**Ottawa, Ont.**—Contract awarded by Norlite Realty Co., Ottawa, to Trussed Steel Concrete Co., 23 Jordon St., Toronto, for erecting steel and concrete office building at $60,000.

ROADS AND PAVING

PROPOSED WORK.

Willimantic, Conn.—City intends spending about $33,000 for contemplated street improvements. R. E. Mitchell, city engr.

Ballston Spa, N. Y.—Plans being prepared by John E. Hodgman, co. supt. highways, Ballston Spa, for improving 3 miles of High Mills-Middle Grove road passing through this town.

East Rochester, N. Y.—Village on Jan. 6 voted $108,000 bonds for following improvements: $24,600 for paving 3 blocks on East Elm St.; $14,400 for paving 2 blocks on West Chestnut St.; $69,000 for constructing surface water sewer system in Main St.

New York, N. Y.—Bd. Estimate has appropriated $80,000 to pave roadway of Brooklyn bridge with wood block.

Niagara Falls, N. Y.—Estimates of W. B. Bennett, city engr., for paving portion of Niagara St. is $8,040, and 2 portions of 24th St. is $18,728.

Oswego, N. Y.—Bd. Supervs. have voted to construct following state highways: Constantia-Cleveland, 8 miles; Williamstown-Redfield and Palermo-Mexico, both 5 miles; part 2 of Fulton-Baldwinsville road in town of Granby, 2¾ miles; Minetto-Fulton road in city of Oswego, ¾ miles.

Phelps, N. Y.—Estimated cost of constructing road from Colton's Corners to Gypsum, placed at $21,165, of which town's share will be $1,411. This road will be connecting link between improved road in town of Manchester and proposed road from Colton's Corners northward to Arcadia town line connecting with highway into Newark. Charles H. Burt, town clk.

Riverhead, N. Y.—Total of $510,070 has been appropriated by 10 towns in county for highway work during 1917.

Watertown, N. Y.—Bd. Supervs. intend constructing 110 miles of roads in county.

Belvidere, N. J.—Bd. Freeholders considering construction of 8-mile macadam road from here to Washington. Harry Vetter, co. engr.

Flemington, N. J.—State Road Dept. and Bd. Freeholders contemplate improving following 5 roads in Readington township: from Van Derveer's Corner to Lamington Bridge; Dreahook to Wyckoff's Corner; Wyckoff's Corner to Readington; Pleasant Run to Stanton; Stanton to Stanton Station.

New Brunswick, N. J.—Approval of plans by State Road Dept., Trenton, for proposed paving of Franklin Park-Kingston Road and Middlesex Ave., from Metuchen to Union County line, has been asked by Bd. Freeholders.

Paulsboro, N. J.—Bd. Freeholders, Woodbury, intend constructing road from here to Jefferson; estimated cost, $10,000.

Trenton, N. J.—Contracts will be awarded in spring for paving 14 streets principally with asphalt and making South Broad St. into wide boule.; portion of Pennington Ave. will be paved with vitrified brick on 5-in. concrete foundation with granite blocks between RR. tracks. A. Swann, engr. of streets.

Bd. Freeholders intend using $55,000 motor vehicle fund for road repairs.

Trenton, N. J.—Bd. Freeholders have appropriations for following improvements: Dept. Road Repairs, $90,000; Dept. New Roads, $25,000; Dept. Bridges, $20,000; Dept. Pub. Bldgs., $78,000.

Verona, N. J.—Bd. Freeholders, Newark, considering paving Bloomfield Ave. from here to Caldwell, with wood block or other material.

Greensburg, Pa.—Contracts will soon be awarded by borough for furnishing 415,000 bricks to be ready for shipment March 1 for repaving portions of E. Pittsburgh, W. Otterman and Laird Sts. Samuel Neel, boro. engr.

Homewood, Pa.—State Highway Comr., Harrisburg, intends constructing road from here to Wampum as part of Beaver Valley Road, from Morado Park at Beaver Falls to New Castle, which road when completed will make one continuous road of brick and macadam from Ohio River to New Castle; surveys now being made.

Pittsburgh, Pa.—Dept. Pub. Wks. intends grading, paving and curbing portion of Graphis St., at estimated cost of $15,000. Jos. G. Armstrong, mayor.

Pottsville, Pa.—County intends spending about $50,000 for road work during 1917.

Sharon, Pa.—City intends paving about 6000 sq. yds. in each ward during 1917; some of the streets to be paved are: North Irving, Penn and Budd Aves., Washington and Ohio Sts. Robert P. Allen, street comr.

Wayne, Pa.—Radnor township sold $100,000 highway improvement bonds. Wm. S. Ellis, chmn., Finance Com.

West Chester, Pa.—County has under consideration improving state highway route No. 273 between here and Unionville; estimated cost, $70,000.

Washington, D. C.—Annual $1,000,000 allotment for roads and trails in national forests as follows: California, $140,988; Oregon, $128,111; Idaho, $108,730; Washington, $91,944; Montana, $70,042; Colorado, $62,575; Arizona, $58,604; Alaska, $46,354; Utah, $41,167; Wyoming, $40,684; Nevada, $19,296; Arkansas, $9,803; Maine, New Hampshire, Virginia, West Virginia, North and South Carolina, Georgia and Tennessee—in which land is being purchased for national forests—receive $21,120; Florida, Oklahoma, Nebraska, North Dakota, Minnesota and Michigan receive total of $9,995: 10 per cent of 1918 allotment is withheld as contingent fund; ½ of remainder apportioned among states on basis of areas of their national forests, remaining ½ on basis of estimated value of timber and forage resources that forests contain.

Clintwood, Va.—Contracts will soon be awarded by Co. Comrs. for constructing road between here and Freeling and repairing Main St.; estimated cost $60,000.

Welch, W. Va.—County will shortly vote on question of issuing $1,400,000 bonds for improving roads.

Clarendon, Va.—County intends advertising in March for bids to construct following roads in Washington Dist., for which $120,000 bonds have been recently voted: With stone and bitumen macadam, on Georgetown and Falls Church road from Rosslyn to Cherrydale, about 4 miles, cost $43,325; on Glebe road from Chain Bridge to Arlington line, near Mt. Olivet Church, about 3½ miles, $41,445; Military road, north from Cherrydale station, 1 mile, $8,866; waterbound macadam on Lubber Lane from Georgetown and Little Falls Church road to Little Falls road, about ¾ mile, $5,000; macadam on Jewell road, from Little Falls road to Glebe road, $2,645; average cost about $11,000 per mile. Remainder of bond issue will be used to pave with tar macadam on portions of 8 streets in Cherrydale. Geo. H. Rucker, co. clk.

Parsons, W. Va.—Davis, Dry Fork and Fairfax Dists. voted road bonds, totaling $308,000, to construct permanent roads connecting with Maryland's state road system and following to large extent grade known as "The Old Trail." Address Co. Clk.

Taylorsville, N. C.—County sold $150,000 good road bonds.

Darlington, S. C.—Town Council has under consideration election to vote $50,000 bonds for paving numerous streets for which petitions have been filed.

Greenville, S. C.—City intends grading and paving portions of Lavinia Ave. and Elford St., and paving portions of East and West Park Aves. and 5 other streets. W. F. B. Waynesworth, city engr.

Rome, Ga.—Field work on plans for constructing proposed link via Summerville, between here and Menlo, Ga., leading over crest of Lookout ridge of Georgia-Alabama highway through Cumberland mountains, has been completed by E. H. Davis., engr., State Highway Comn., Atlanta, and after office details have been completed, these will be submitted to U. S. Secy. of Agriculture for approval, that Federal aid may be obtained to construct this road.

Bartow, Fla.—County will hold election Jan. 18 in Winterhaven Dist. to vote $350,000 road and bridge construction bonds.

Fellsmere, Fla.—Contracts will soon be awarded by town for street improvements for which $50,000 bonds have recently been voted.

Homestead, Fla.—City sold $40,000 bonds for proposed street improvements.

West Palm Beach, Fla.—County sold $150,000 bonds for constructing roads into Everglades.

Colfax, La.—County will hold election March 13 in Grant Parish Road Dist. No. 8 to vote $150,000 bonds for constructing 33 miles of Jefferson highway.

Crowley, La.—First Road Dist. of parish voted $400,000 good road bonds. Address Secy., Police Jury.

New Orleans, La.—City intends paving numerous streets with creosoted wood blocks this year at estimated cost of $750,000.

New Roads, La.—Good road bonds for $83,000 about to be sold by Supervs. Road Dist. No. 1., Point Coupee Parish.

Decatur, Miss.—Voters of Beat No. 3, which has received $10,000 government road aid, have approved $30,000 good road bond issue.

Greenville, Miss.—County sold on Dec. 23 $950,000 bonds for constructing 145 miles of permanent roads, some of which are contracted for.

Laurel, Miss.—City voted $10,000 Dec. 19 to pave portions of First and Fourth Aves and Sixth St.

Jonesboro, Tenn.—County has under consideration construction of 225 miles of highways, 18 ft. wide, with 14 ft. wide macadam surface, at estimated cost of $761,775.

Bardstown, Ky.—County voted $55,000 road construction bonds.

Frenchburg, Ky.—County will hold election March 10 to vote $50,000 road bonds; address Co. Judge.

Harlan, Ky.—City intends spending $75,000 for improving streets and constructing roads immediately surrounding city, which will include one mile of concrete roadbed.

Hellier, Ky.—Reported city intends spending $25,000 on street improvements.

Ravenna, Ky.—City intends spending $40,000 on street improvements, principally on Railroad Ave. and Second St.

Ashtabula, O.—City intends grading, draining, curbing and paving portions of Park, Vine and Drexel Sts., Park Pl. and Scoville Court. A. T. Faulkner, city clk.

Akron, O.—County intends spending $500,000 for road improvements during 1917, and is considering construction of highway to pass over high level bridge.

Brooklyn, Sta., Cleveland, O.—Street improvement bonds for $50,385 will be sold Feb. 6 by J. A. Fitzgerald, clk., Village of Newburgh Heights.

Cincinnati, O.—List of streets to be improved with $200,000 bond issue authorized by City Council being prepared by Frank S. Krug, city engr.

County intends improving Riddle road in Springfield Twp., at estimated cost of $15,635. W. H. Bolk, co. engr.

Street improvement bonds for $53,000 will be sold Feb. 1, Fred Schneller, City Hall.

Cleveland, O.—Included in tentative agreement for paving 50 miles on 28 county roads, at estimated cost of $2,000,000, which will be paid for partly by adjacent property owners and communities through which roads pass, making county's share about $800,000, are: Broadway and Detroit Aves., in city of Cleveland, Kinsman Road from city limits to Warrensville Center Road and Som Center and Bagley Roads in county. W. A. Stinchcomb, co. engr.

Defiance, O.—Street improvement bonds for $38,000 will be sold Jan. 19 by city. Edward S. Bronson, mayor.

Fremont, O.—County intends improving Maumee pike from here to Muscalonge Creek at estimated cost of $30,000; paving with brick, 16 ft. wide, for 1.3 miles, Fremont-Castalia road (inter-county highway No. 281), $26,000; paving, 16 ft. wide for ¾ mile, Fremont-Bowling Green road in Sandusky Township, $18,000; paving 1 mile of Fremont-Bellevue road, $3,000; improving Sandusky-Clyde road from Maumee Pike to Clyde.

Tiffin, Ohio.—City intends selling following improvement bonds: $15,000 for E. Perry St., $11,500 for Apple St., and $6,500 for Douglas St. Geo. W. Hoffman, city clk.

New Albany, Ind.—County sold on Dec. 30, $18,260 road bonds. Claude A. Sittason, co. aud.

Rensselaer, Ind.—Union Twp. sold on Dec. 21. $50,000 bonds for constructing stone roads.

Detroit, Mich.—As soon as specifications are revised, contracts will be awarded on each Thursday of each week, by Bd. Pub. Wks. (Porter Murphy, secy.), for paving with asphaltic concrete, 2 in. thick, on 6 in. concrete foundations, 12 streets and alleys. C. W. Hubbell, city engr.

Ontonagon. Mich.—Plans being prepared by J. K. Morton, co. highway engr., for constructing main county highways with State Reward Specifications for which $195,000 bonds were recently voted.

Saginaw, West Side, Mich.—Plans being prepared for stone road which county intends constructing from here to Midland that will be paid for partly by property owners along its right of way.

Grayville, Ill.—Estimated cost of paving with brick and tarvia on concrete foundations and constructing concrete curbs and gutters, on 3 miles of streets, including North, South and Mill Sts., placed at $120,000. G. W. Courter, engr., Mt. Carmel, Ill. Paul R. Blood, pub. engr., Grayville, Ill.

Joliet, Ill.—Plans being prepared by C. D. O'Callahan, engr., Joliet Natl. Bank Bldg., for paving Marion Ave. with asphalt on 2400 sq. yd. of 5-in. concrete base, on 5170 sq. yd. of natural base, and with brick on 300 sq. yd. of 5-in. concrete base estimated cost $30,156; also Wilcox St. with bituminous asphalt on 6200 sq. yd. of 5-in. concrete base, including 3200 cu. yd. of excav., and 4250 lin. ft. of curbs and gutters; estimated cost $40,436. W. C. Barth, pres. Bd. Pub. Wks.

Naperville. Ill.—Contracts will be awarded about March 30, for paving streets in west side of city with concrete; estimated cost $105,000. C. A. Ashley, city engr.

North Chicago, Ill. — Estimated cost of proposed paving contemplated by Bd. Local Improvement placed at $120,711.

Ottawa, Ill.—Residents and users of road along Illinois & Michigan canal, between here and Marseilles, considering paying cost for proposed grading and paving of this road with crushed rock that may be obtained from penitentiary. Address Co. Clk.

Silvis, Ill.—Contracts will be awarded this spring for paving with concrete or brick on concrete foundation, 2 miles of roads. Address, R. M. Binell, village engr., Moline, Ill.

Balsam Lake, Wis.—County will hold election April 4 to vote $400,000 road bonds. N. P. Swanson, co. clk.

Eau Claire, Wis.—County will hold election April 3 to vote $750,000 bonds for constructing 110 miles of concrete roads. J. H. Nygaard, co. aud.

Monroe, Wis.—County considering issue of $650,000 highway construction bonds. J. W. Stewart, co. aud.

Richland Center, Wis.—At April election county will vote upon question of issuing $500,000 road construction bonds. G. H. Mainwaring, co. highway comr.

Avoca, Ia.—City intends paving 20 blocks at estimated cost of $65,000.

Cedar Falls, Ia.—City has under consideration paving 64 blocks.

Dallas Center, Ia.—City has under consideration paving 26 blocks in different streets at estimated cost of $60,000.

Independence, Ia.—City intends paving 52 blocks at estimated cost of $104,000.

Iowa City, Ia.—Reported city intends paving 30 blocks in different streets at estimated cost of $100,000.

Marshalltown, Ia.—Contracts will probably be awarded in February by county for grading, hauling and graveling 4 miles of Marietta-Albion road.

Oelwein, Ia.—City has under consideration paving 20 blocks.

Rock Rapids, Ia.—Contracts will soon be awarded by county for constructing at estimated cost of $70,000 about 16 miles of roads. E. J. Riegel, co. aud.

Storm Lake, Ia.—City has under consideration paving 40 blocks in different streets at estimated cost of $135,000.

St. Paul, Minn.—City has under consideration following paving improvements: 10 miles of streets in Merriam Park; paving with asphalt concrete portion of Iglehart Ave. (total cost, $40,148; $3.91 per sq. ft.); with asphalt, portions of Ohio ($29,814; $4.99) and Sydney Sts. ($30,666; $4.72); with creosoted wood blocks, portions of Grand Ave., ($40,518; $5.56) and Earl St. ($14,826; $5.00); with brick, portion of E. 7th St. ($29,658; $4.53).

Parsons, Kan.—City intends paving 18 blocks with asphalt surface on vitrified brick or concrete foundation at estimated cost of $45,000.

Hamilton, Mont.—County sold $150,000 road construction bonds.

Kansas City, Mo.—Bd. Pub. Wks. (J. P. Kane, secy) intends grading portions of N. 10th, 51st, Chestnut and 2 other streets, paving portions of 7th and Oak Sts. and Kensington Ave. with asphalt and paving portion of 23d St. with 4 in. vertical fiber vitrified brick on 6 in. concrete foundation.

Hot Springs, Ark.—City considering election to vote bonds for paving more than 100 blocks.

McGehee, Ark.—State Highway Comr. (C. C. Burkett, engr., Little Rock, Ark.) intends constructing 5 roads from here, as follows: To Tillar, to Bayou Bartholomew, to Trippe, to McArthur, and to Drew County line, for which surveys have been made.

Beaumont, Tex.—County intends improving Beaumont-China Road, 15 miles long.

City intends spending $20,216 to pave 4 streets, $14,960 of which will be used to pave 2 parts of Magnolia Ave.

Columbus, Tex.—Election Jan. 16 to vote $100,000 for constructing proposed highway in new road dist. recently created by Comrs.' Court.

Dallas, Tex.—Otto H. Lang, comr., has approved petitions whereby adjoining property owners pay entire cost of street improvement for 46 miles of paving at estimated cost of $2,000,000, also 20 miles of new storm sewers.

Melvin, Tex.—To increase road fund recently voted by county, amounting to 15 cents per $100, election has been called in precincts in which are towns of Melvin and Doole, to vote $30,000 additional road bonds. Address Co. Clk., Brady.

Palestine, Tex.—County has under consideration election to vote $400,000 for good road bonds for constructing proposed highway and other roads with which it is hoped adjoining counties will connect with similar roads.

San Antonio, Tex.—Tentative agreement has been made between Chas. X. Gutzeit, co. comr., and his assoc., here, with Medina Dam Toll Company for constructing 8 mile toll road and obtain full payment from toll collection, providing toll company is unable to raise required $19,000, for which subscriptions of about $16,000 have been received.

Waco, Tex.—County has under consideration election to vote $2,500,000 road construction bonds.

Waxahachie, Tex.—Contracts will probably be awarded by city in March for constructing 12 miles of asphaltic concrete paving with combined 7-in. curb and 8-in. gutter, with 1:8 concrete foundation on College, Brown, Marvin and five other street, at estimated cost of $300,000. J. D. Kirven, city engr.

Ardmore, Okla.—Plans being prepared by Julian C. Field & Co., engrs., 106 Field Bldg., Denison, Tex., for Ardmore Oil Fields Transportation Co., for constructing 40-mile toll highway from here, northwest to Healdton and Fox Oil Fields.

Holdenville, Okla.—Election Jan. 15 to vote $43,200 road construction bonds. W. Johnson, chmn. Bd. Comrs.

Roswell, N. M.—County will hold election Feb. 6 to vote $100,000 road construction bonds.

Tucumcari, N. M.—County considering election to vote $150,000 bonds for constructing roads and bridges. Address co. clk.

Okanogan, Wash.—Estimate of J. D. Hubbard, co. aud., for completing State Highway No. 10, placed at $92,870. H. E. Smith, co. engr.

North Yakima, Wash.—City intends grading, constructing storm sewers, drains and culverts and paving portion of First Ave. South with bituminous concrete, gravel bitulithic, brick or some other hard-surfacing material. City, also, intends paving North Produce Row on First Ave. for 6 blocks at cost placed between $60,000 and $90,000, greatest portion of cost of which will be borne by Oregon, Washington RR. & Navigation Co. C. Murray, ch. engr., Portland, Ore.

Seattle, Wash.—City Council considering submission to voters at March 6 election bond issue of $510,000 for improving city's arterial highways, to be paid in 6 equal annual installments. A. H. Dimock, city engr.

Los Angeles, Cal.—Estimated cost of proposed scenic road overlooking Arroyo Seco within city limits, placed between $67,735 and $120,276 by Homer Hamlin, city engr., as follows: $31,000 for asphalt or $40,547 for bitulithic pavement; $6,000 for combination truss bridge or $20,000 for concrete bridge, over Arroyo Seco; $30,000 for grading, and construction of culverts, curbs and sidewalks; $10,000 for protection along Arroyo Seco; $10,097 for rights-of-way.

City has under consideration improving portions of Hoover St., Normandie and Alexandria Aves. and construction of culverts on part of Sherman Way. Address Clk. Bd. Pub. Wks.

Sacramento, Cal.—Bd. Supervs., who voted some months past to construct county highway by Elverta route, considering proposal of Natomas Company to construct 28-mile highway along top of Natomas levee from American River north to Bear River, and pay one-half of cost, placed at $200,000, in 5 annual installments of $20,000 each. Bd. Supervs. of Sutter County, Yuba City, Cal., have also been asked by this company to pay one-half of cost for constructing proposed highway along top of Bear River levee.

Hillsbore, Ore.—Reported county has apportioned road funds for 1917 work, as follows: Forect Grove-Banks road, $15,000; Taylor-Ferny and new Beaverton highway, $10,000 each; Buxton-Forest Grove, $5,000.

Taft, Cal.—Plans being prepared by E. M. Lynch, city engr. of Glendale, for grading, paving, constructing cement curbs, gutters and sidewalks; also sewer extensions and fire mains; total estimated cost $125,000.

Yorba Linda, Cal.—Plans being prepared by W. J. Redshaw, city engr. of Fullerton, Cal., for grading, including some excav., and oiling about 30 miles of streets in Yorba Linda tract; estimated cost $40,000.

Idaho.—State Highway Comn., Boise City, has asked State Legislature to appropriate $1,500,000 for proposed work on following roads: $353,000 on North and South; $295,592 on Sawtooth Park; $265,122 on Idaho-Pacific; $165,000 on Panhandle; $125,000 on Idaho-Montana; $100,000 on North Pacific; $87,000 on Yellowstone Park; $80,000 on Lewis and Clark; $28,847 on Idaho-Utah; Federal Government has appropriated $430,000 toward constructing these roads; different counties in state are expected to appropriate $1,888,000 additional.

Quebec, Que.—Canadian Government intends borrowing $20,000,000 to construct good roads during 1917.

Listowel, Ont.—Election will be held this month to vote $18,000 for paving portions of Main and Wallace Sts. with reinforced-concrete. W. Bright, clk.

Ottawa, Ont.—Brant County intends constructing 100 miles of roads. W. A. McLean, deputy minister of highways.

Toronto, Ont. — Estimated cost of constructing two portions of Davenport Rd., total length 19,176 lin. ft., 42 ft. wide, 8 ft. of which will be occupied by Interurban Ry., and paving same with bitulithic, 34 ft. wide, on 8-in. concrete foundation, with brick block gutters, placed at $176,707. Total proposed street improvements include $3,086,124 for street extensions, $3,015,843 for pavements, and $237,218 for sidewalks. T. Bradshaw, comr.

BIDS DESIRED.

Bolton, Conn.—Until Jan. 15, by State Highway Contr., for about 5620 lin. ft. graded construction and constructing 94-ft. span reinforced concrete bridge on Hartford-Willimantic Turnpike; plans may be seen at office of R. W. Stevens, div. engr., 408 Main St., Hartford, advertised in this issue.

Brooklyn, N. Y.—Until Jan. 17, by L. H. Pounds, Boro. Pres., Room 2, Boro. Hall, Brooklyn, for resurfacing with asphalt by the Heater Method, roadways of certain asphalt paved streets, lying within dist. bounded on S. and E. by Hamilton Ave., Prospect Park; Malbone St. and numerous other streets; on N. and W. by Boro. Line and E. River; about 150,000 sq. yd.; engineer's estimate: 210,000 cu. ft. asphalt wearing surface delivered and laid (measured in trucks at plant) 700 cu. ft., binder mixture, 80 water gate boxes, 80 sewer manholes, together with curbing, hydrant boxes, covers and basins; security $50,000; also for laying sidewalks, grading and curbing on portions of Ovington Ave., 4160 sq. ft. cement sidewalks and same number 6-in. cinder or gravel sidewalk; portion of roadway of Sackman St., 885 sq. yd. asphalt; total security $1,200; also for furnishing and delivering 1000 cu. yd. paving gravel to be delivered as follows: Corporation Yd., Wallabout Basin, ft. Hewes St., Municipal Asphalt Plant, 7th St. Basin, Gowanus Canal, Corporation Yd, N. 8th St., near Union Ave., Corporation Yd., De Kalb Ave., near Irving Ave., security 30 per cent; plans may be obtained at Bureau Highways, Room 502, Court St., Brooklyn.

Hillsboro, N. J.—Reported desired until Feb. 6, by Co. Comrs. (Clarence Van Cleff, clk.), for 12,155 sq. yd. macadam road in Flagtown-South Branch Rd., certified check for $600 to accompany each bid; F. Westervelt Tooker, engr., 20 Clinton St., Newark.

Philadelphia, Pa.—See "Miscellaneous."

Clintwood, Va.—Until Jan. 26, for road building between Clintwood and Freeling, also improving Main St.; expenditure $60,000. Address County Judge.

Wise, Va.—Until Jan. 31 for street improvement for 1917; expenditure about $50,000. Address City Comrs.

Jacksonville, Fla.—Until Jan. 31, by Committee Pub Wks., Board Bond Trustees (Gustav Miller, chmn.), for paving portions of Laura and Forsyth Sts., work includes 2576 yd. asphaltic concrete pavement on concrete base and laying 254 sq. yd. vitr. brick.

Earlington, Ky.—Until Jan. 28 for constructing 3 mile roadway; $15,000 available; address City Council.

Frenchburg, Ky.—Until Jan. 29 for building road between Frenchburg and Rothwell; $20,000 available; address City Council.

Mt. Olivet, Ky.—Until Feb. 6 by Fiscal Court, Robertson County, for good road work for 1917; $30,000 available.

Gallipolis, O.—Until Jan. 26, by L. C. Bean, dir. pub. serv., for paving Grape St. between 3d and 4th Aves., certified check for $500 to accompany each bid.

Ohio.—Until Jan. 16, by Clinton Cowen, State Highway Comr., Columbus, for grading, paving, constructing bridges, culverts, etc., as follows:

Brown Co., on Sec. A, Ripley-Hillsboro boro Rd., in Union Twp., with water-bound macadam, and providing necessary drainage structures; roadway 20 ft., length 4.63 miles; cost about $19,324.

Hamilton Co., Sec. A, Cincinnati-Hamilton Rd., in Springfield and Colerain Twps., brick, grout filler and granite curb, $192,033; brick, mastic filler and granite curb, $195,660; brick, grout filler and concrete curb, $184,654 brick, mastic filler and concrete curb, $187,480; roadway 30 ft., length 4.82 mile.

Hamilton Co., Sec. A, Carthage-Hamilton Rd., Springfield Twp., brick grout filler, $141,999; brick, mastic filler and granite curb, $143,466; brick grout filler and concrete curb, $137,188; roadway 30 ft., length 4.19 mile.

Scioto Co., Sec. M, Portsmouth-Lucasville Rd., in Washington Twp., roadway 30 ft., length 1.35 miles; cost about $14,907.

Lebanon, Ind.—Reported desired until Jan. 29 by city, for paving with brick about 13 blocks of Indianapolis Ave., cost about $25,000.

Zeeland, Mich.—Until Feb. 1 by the L. A. Boulay Co., Nicholas Bldg., Toledo, O., for 18,600 sq. yd. paving on concrete foundation on Main St., together with 10,000 ft. stone or concrete or straight and combined curb and gutter, 9000 yd. fill; cost about $50,000.

Illinois.—Until Jan. 17, by State Highway Comn., Springfield, for following road work: Tamms (Alexander Co.), Sec. "C," novaculite macadam, length, 14,640 ft., cost about $20,183; Hardin (Calhoun Co.), Sec. "C," waterbound macadam, length 2200 ft., cost about $3,078; Benton (Franklin Co.), Sec. "D," concrete, length 5350 ft., cost about $9,120; Carbondale (Jackson Co.), Secs. "D, E, F, G," bituminous macadam, length 16,631 ft., cost about $29,340; Dixon (Lee Co.), Sec. "C," bituminous macadam, length, 7100 ft., cost about $9,926; Macomb (McDonough Co.), Secs. "F, G, H, I," earth, total lengths, 20,347 ft., cost about $9,003; Aledo (Mercier Co.), Sec. "F," earth, length, 16,041.4 ft., cost about $4,110; Reynolds (Mercer Co.), Sec. "G," earth, 14,925 ft., cost about $4,302; Seaton (Mercer Co.), Sec. "I," earth, length, 1020 ft., cost $2,930; Collinsville (Madison Co.), Sec. "G," length, 4125 ft., bituminous macadam, cost about $5,382.

Virginia, Ill.—Reported desired until Apr. 1, for road improvement; cost about $14,000. Address Co. Clk.

Spirit Lake, Ia.—Until Jan. 25, by Angus MacDonald, co. aud., for grading county roads 11.75 mi., 44,470 cu. yd. earth excavation; advertised in this issue.

Montevideo, Minn.—Until Feb. 5, by City Council (B. O. Bonn, city clk.) for 17,537 sq. yds. creosoted block paving on 1st St., 660 sq. yd. 7-in. concrete paving on Lincoln Ave., also for bitulithic for same; certified check for 3 per cent to accompany each bid.

Mt. Vernon, Tex.—Reported desired until Feb. 4, by Judge Reeves, for reconstructing and completing system of highways, including bridges and culverts, etc., for Road Dist. No. 1, Franklin Co.

PRICES AND LETTINGS

★Indicates award of contract.

★**New Haven, Mich.**—Contract awarded by County Road Comrs. to Campbell, Baldwin & Bennett, New Haven, Mich., at $11,780, for constructing 3 7-10 miles of Huelett-Messmore road in Armada Township, with gravel, 9 ft. wide.

Brooklyn, N. Y.—Following are low bids for road work opened Dec. 27, by L. H. Pounds, pres., Brooklyn Boro., Borough Hall, Brooklyn, N. Y., for paving portion of Benson Ave. with asphalt on 6-in. concrete foundations: Borough Asphalt Co., 1301 Metropolitan Ave., $31,020; Cranford Co., 190 Montague St., $31,691; Brooklyn Alcatraz Asphalt Co., 407 Hamilton Ave., $32,247, all of Brooklyn. For paving portion of E. 34th St. and Avenue D with asphalt on 6-in. concrete foundation: Borough Asphalt Co., $13,522; Cranford Co., $13,703; Brooklyn Alcatraz Asphalt Co., $13,729; Uvalde Asphalt Paving Co., 1 Broadway, New York City $13,868. For paving W. 31st St., Cranford Co., $11,424; Brooklyn Alcatraz Asphalt Co. $11,872; Borough Asphalt Co., $11,877; Uvalde Asphalt Paving Co., $12,708.

★**Berwyn, Ill.**—Contract awarded by Bd. Local Imp. (bids opened Dec. 19) to Chicago Foundation Co. (T. J. Dolan, vice-pres.), Ft. Dearborn Bldg., Chicago, Ill., at $18,300, for constructing combined concrete curb and gutters and paving Kenilworth Ave.

★**Storm Lake, Ia.**—Contracts awarded by county (bids opened Dec. 20) for grading portions of 72 miles of county highway system, as follows: John Leach, Washta, Ia., at 21.4 cts. per cu. yd.; Hanlon & Reilley, Omaha, Neb., at 24.4 cts. per cu. yd.; Geo. W. Condon, Omaha, Neb., at 24.5 cts. per cu. yd.

★**Iberia, Mo.**—Contract awarded by Co. Comrs., Tuscumbia, to J. T. Code, Springfield, Mo., for constructing highway 2½ miles long, between here and Crocker.

★**Brownwood, Tex.**—Contract awarded by county to N. A. Dawson, San Antonio, Tex., at $100,000 for constructing roads.

★**Clarendon, Tex.**—Contract awarded by county to Oglesby & Harris, Tyler, Tex., at $75,000, for constructing roads. Hess & Skinner, engrs., Dallas.

★**Galveston, Tex.**—Contracts awarded on Dec. 30 by Co. Comrs. to J. C. Kelso & Co., Galveston, at $55,637, for paving numerous streets with brick blocks, and to Park Moran Co., Okmulgee, Okla., at $72,375, for concrete work in streets including sidewalks, curbing, capping and 4-in. foundation for brick block pavement.

★**Halletsville, Tex.**—Contract awarded by Comrs. Court to J. A. Coopwood, Shiner, Tex., at $15,500, for grading road 10 miles long, in Yoakum Sweet Home Dist.; county furnishing gravel.

★**Mt. Pleasant, Tex.**—Contract awarded by city to General Constr. Co., Ft. Worth, Tex., at $24,574, for grading, constructing curbs and gutters and gravelling 1 mile of streets.

★**North Yakima, Wash.**—Contract awarded by county (bids opened Dec. 25) to H. E. Mathieson, Sunnyside, Wash., at $11,280, for grading and graveling permanent highway No. 2. C. E. Barrett, co. aud.

★**El Segundo, Cal.**—Contract awarded by Bd. Supervs., Los Angeles, to White & Gaskill, Long Beach (bids opened Dec. 18) at $12,000, for paving with 5-in. macadam 2.32 miles on Ballona Ave. and Main St.

★**Pawnee, Okla.**—Contract awarded by city to M. A. Swatek & Co., Oklahoma City, at $11,095, for paving with vitrified fiber brick in dist. No. 4. Benham Engr. Co., engrs., Colcord Bldg., Oklahoma City.

★**Glendale, Cal.**—Contract awarded by Bd. Supervs., Los Angeles, to Geo. H. Oswald, 405 O. T. Johnson Bldg., Los Angeles, at about $11,000, for constructing and paving with 5 in. concrete, 30 ft. wide, 1.07 miles of Grand Ave., Road Dist. No. 116.

★**Los Angeles, Cal.**—Contract awarded by Bd. Supervs. to Rogers Bros. Co., 506 Hibernian Bldg., Los Angeles, Cal., at $16,400 for constructing and paving with macadam 2.62 miles of road, 2½ miles from Lark Ellen station on Pacific Electric Ry., in Road Dist. No. 55.

★**San Diego, Cal.**—Contract awarded by city to Fairchild-Gilmore-Wilton Co., Pacific Elec. Bldg., Los Angeles, Cal., at $10,710, for constructing with 4 in. concrete and oiled screenings surface, 103,000 sq. ft., including cement curbs and sidewalks, on portion of Kansas St.

★**Orofino, Idaho.** — Reported contract awarded by city to C. M. Payne, Spokane, Wash., at $12,145, for paving portion of Johnson Ave.

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PROPOSED WORK.

New Haven, Conn.—Petitions have been filed with State Secy. by the Connecticut Co. (E. P. Harlan, mgr., New Haven) for permission to construct extensions in Hartford, Waterbury, Bridgeport, Meriden, Cromwell, Norwich and Thomaston.

Philadelphia, Pa.—Mayor and Council considering the construction of a high speed surface railway between Frankford and Somerton sections of the city, for which $1,200,000 has been appropriated in the Transit Loan.

Pittsburgh, Pa.—States of Ohio and Indiana have authorized incorporation of Pittsburgh, Cincinnati, Chicago & St. Louis R. R. Co., formed by merger of five railroad companies, with a capital of $100,000,000. Treasury stock amounting to $15,139,834 is being withheld, to be issued from time to time, for improvement of company's property, purchase and construction of additional railways and for other lawful purposes. Principal offices are to be in Pittsburgh. S. H. Church, secy.

Hampton, Va.—H. R. Booker, Nelson D. Groome and H. H. Bolt have received a franchise from City Council to construct a line from Mallory Ave. to city limits.

Atlanta, Ga.—Georgia Ry. & Power Co. (G. W. Brine, gen. mgr.) plans constructing 6 or 8 miles of new track this year.

Elberta, Ala.—Reported Mobile, Volanta & Pensacola RR. Co., Mobile, plans constructing a line between Gabel and Elberta, a distance of 20 miles.

Baton Rouge, La.—Illinois Central R. R. Co. (A. S. Baldwin, ch. engr., Chicago, Ill.) contemplates double-tracking the Baton Rouge, Hammond & Eastern R. R. between Hammond and Baton Rouge.

Covington, Ky.—City Comrs. reported considering ordinance providing for elimination of grade crossings on Chesapeake & Ohio Ry. and Louisville & Nashville Ry., including Willow, North, Main, 5th, Russell and West Sts. and Madison Ave., construction of underpass on 17th St. and Madison Ave., and concrete bridge at Willow St., steel and concrete bridge at 12th, 8th, 9th and 10th Sts., and a steel girder bridge at Pike and Russell, Harvey, Bremen, Main, 4th, 5th and 6th Sts., etc., contemplated.

East Bernstadt, Ky.—Bond Foley Lumber Co., London, Ky., will construct 12 miles of lumber railroad from here to McKee. W. C. Trosper, engr.

Krypton, Ky.—Mowbray-Robinson Co. will construct 15-mile railroad from Krypton to reach undeveloped coal fields, terminating at Troublesome Creek. W. G. Denham, engr.

Indianapolis, Ind.—Indianapolis Traction & Terminal Co. (Robert I. Todd, gen. mgr. plans extension on Illinois St. from 39th to 46th Sts.

Chicago, Ill.—Reported Chicago Heights St. Ry. Co. (C. H. Wacker, pres.) will construct one mile of new track during 1917.

St. Paul, Minn.—Twin City Belt Ry. Terminal & Transfer Co. (Ralph Budd, pres.) incorporated with $10,000,000 capital; incorporators, W. Hill, pres., Great Northern; J. M. Hannaford, pres., Northern Pacific.

Great Falls, Mont. — Reported Great Northern Ry. (A. H. Hogeland, ch. engr., St. Paul, Minn.) will double-track large portion of its main line in northern part of state. Work will include stretch 4 miles in length between Havre and Pacific Jct.; 25-mile stretch between Shelby and Cutbank; 6-mile stretch between Whitefish and Columbia Falls, and 6 miles between Java and Essex.

Everett, Wash.—Reported Great Northern Ry. Co. (J. M. Boyle, supt.) plans improvements at the Delta yards, including new trackage. In addition to this work, the line between Everett and Vancouver, B. C., and Everett and Seattle will be improved.

Burns, Ore.—Harney Valley RR. Co., reported incorporated with capital of $25,000 to construct railroad from Bend eastward to Burns, and to Klamath Falls and San Francisco. H. H. Parker, Portland, and M. M. Connor, Vancouver, Wash., reported interested.

Centerville, Cal.—Reported Fresno Interurban Ry. Co. (Jno. B. Rogers, ch. engr., San Francisco) plans extension between Academy and Centerville, distance 10 miles, during 1917.

Los Angeles, Cal.—Reported Southern Pacific R. R. Co. (W. Hood, ch. engr., San Francisco, contemplates double tracking line from Los Angeles to Indo, about 120 miles.

Portersville, Cal.—Right-of-way secured by Portersville Northeastern R. R. Co. for extension of its Magnolia Branch, recently completed, 6 miles south to Grand View Heights.

San Diego, Cal.—City Council granted franchise to E. S. Babcock of San Diego Ry. to construct electric railway from Broadway and Arctic St. to Pacific Beach.

Bingham, Utah.—Utah Copper Co. (Salt Lake City) preparing plans for electrification of its railroad to Garfield; cost, about $4,000,000.

Princeton, B. C.—British Columbia Copper Co., 42 Broadway, New York, plans the construction of 2000-ton daily capacity mill and 13-mile railway to connect the concentrator with the mines at Copper Mountain; estimated to cost $2,000,000.

PRICES AND LETTINGS

★Indicates award of contract.

★**Kellogg, Idaho.**—Reported Oregon-Washington R. R. & Navigation Co., Portland, Ore., has awarded to Twohy Bros., railroad contractors, Portland, contract for construction, of Pine Creek R.R., a distance of 10 miles.

BUILDINGS
Public and Private

PROPOSED WORK.

Boston, Mass.—Realty Investment Co. will erect large office building at Beacon & Somerset Sts.; cost $500,000. Coolidge & Shattuck, archts., 122 Ames Bldg.

John Hancock Insurance Co. has purchased site on Brookline Ave. and will erect new building, to cost $1,000,000.

Reported Cadillac Auto Co. received building permit to erect sales and service station on Commonwealth Ave., Brookline; cost $100,000.

Holyoke, Mass.—Plans being prepared for erecting 3-story brick building for Holyoke Boys' Club; cost $50,000.

Springfield, Mass.—Plans completed for W. H. Carpenter Co., 293 Bridge St., for erecting two 4-story apartment blocks, one 75 x 140 ft., the other 90 x 110 ft., both brick construction, to be erected on Edwards & Lincoln Sts.

Springfield, Mass.—Reported Berkshire Realty Co. will erect 3-story, brick, fireproof public garage, 50 x 123 ft.

Worcester, Mass.—Reported Isaac Richmond will erect 2-story, 110 x 107 ft. brick garage on Liberty St.

Pascoag, R. I.—Reported town of Burrilville will erect school building here to replace one recently destroyed by fire; cost $65,000. Clovis H. Rounds, chmn. bd. educ.

Woonsocket, R. I.—School committee requests city appropriation of $55,000 for erecting school building in Fairmount District. Dr. W. F. Barry, chmn. bd. educ.

Brooklyn, N. Y.—Reported new hospital will be erected where Cumberland Hospital now stands; structure will cost $600,000. John A. Kingsbury, Comr. Public Charities, Mun. Bldg., N. Y. City.

New York, N. Y.—Plans filed for erecting following buildings: 12-story brick fireproof apartment house at 1160 5th Ave. for Floyd S. Brice, Roslyn, N. Y.; cost $900,000. Sharp & Bready, archts., 220 W. 42d St. 2-story brick office and loft buildings at 296 Canal St. for Canal St. Building Corp., 68 William St.; cost $60,000. Hill & Stout, 299 Madison Ave., archts. 5-story fireproof theater at 218 W. 4th St. for Mrs. Marguerite H. Lewis, 25 W. 11th St.; cost $75,000. Delano & Aldrich, 126 E. 38th St., archts. 6-story brick tenement building at 118th St., near 5th Ave., for Michael Josephson, 105 Stanton St.; cost $55,000. Gronenberg & Leuchtag, 303 5th Ave., archts.

Troy, N. Y.—Plans were completed by Mr. Chas. A. Heidrich, 423 State St., Schenectady, for erecting 3-story and basement, 144 x 150-ft. brick, 30-family apartment building on 15th St., by F. N. Stevens, Arkay Bldg., Albany; cost about $100,000.

Atlantic City, N. J.—Reported First Baptist Church will erect edifice at South Carolina and Pacific Aves.; cost $60,000.

Atlantic City, N. J.—Plans were prepared by George W. Chance, Harrison Bldg., Philadelphia, for erecting 350 x 600 ft. convention hall and coliseum, with dome 220 ft. above sea level, providing for capacity of 15,000 persons; cost about $2,500,000.

Reported proposed apartment house on Boardwalk between Brighton and Chelsea Aves. will cost about $250,000. John Stafford, 1112 Chestnut St., Philadelphia, reported interested.

Reported George H. Von Herr interested in proposition with others to erect $2,000,000 hotel on beach front. Address Dr. Underwood Cochran, Atlantic City.

Fortescue, N. J.—Reported Fortescue Development Co. plans erecting 200-room hotel in spring. John J. Hundermark reported interested.

Jamesburg, N. J.—Directors of Home for Boys have submitted report requesting annual appropriation of $100,000 for erecting buildings, to include assembly hall, gymnasium, kitchen and new coal pocket with capacity of 3500 tons.

Jamesburg, N. J.—Legislature will be asked to appropriate $70,000 for erecting gymnasium and lecture hall for Jamesburg Reform School.

Newark, N. J.—Reported Common Council plans improving and extending the city hospital; will cost $135,000.

Township Bd. of Educ. plans erecting addition to Springfield school; cost about $60,000. C. Godfrey Poggi, Elizabeth, arch.

Paterson, N. J.—School bonds for $250,000 will be sold Jan. 18 by Bd. Finance (John J. Broph, clk.).

Springfield, N. J.—Bd. Educ. plans erecting addition to Springfield public school building, to cost between $50,000 and $60,000. G. Godfrey Poggi, archt., Elizabeth.

Allentown, Pa.—City Council acquired property at 5th and Hamilton Sts. for $46,000, to be used as site for new city hall building.

Board of Lehigh Co. Comrs. voted appropriation of $1,000,000 for erecting new courthouse.

Reported City purchased site at Fifth and Hamilton Sts. on which to erect new city hall; cost about $150,000.

Gwynedd, Pa.—Election will be held Feb. 6 to vote bond issue of $60,000 for erection of new school building.

Media, Pa.—Reported Upper Darby Township Bd. Educ. having plans prepared for erecting school, to cost about $250,000.

Reported Catholic Church of Upper Darby Township will erect asylum for deaf and dumb at Lansdowne Ave. and Garrettford Rd.; cost about $1,500,000.

Palmerton, Pa.—School Board will erect 2-story school, to cost about $75,000. Plans being prepared.

Philadelphia, Pa.—Plans are completed and bids will soon be received by E. F. Durang & Son, 1220 Locust St., Philadelphia, for erecting 3-story, stone, 60 x 130-ft. school building for St. Agatha's Roman Catholic Church at 38th and Spring Garden Sts.; cost $100,000.

Reported large office building will be erected on Walnut St. by J. W. Hutchins, 1328 Walnut St.

Wilkes-Barre, Pa.—Borough of Ashley voted bonds for $130,000 for erecting new high school building.

Greenville, S. C.—Report city will purchase hospital at $40,000 and spend $60,000 realized from a recent bond issue for erecting additional building. Address clk. City Council.

St. Petersburg, Fla.—St. Petersburg will vote on bond issue for erecting high school building, to cost about $175,000.

Chattanooga, Tenn.—Reported large addition will be made to Central High School to include large auditorium and dept. of science. Prof. J. S. Ziegler, principal.

Cleveland, O.—Alex Bernstein and O. P. Van Sweringen, Marshall Bldg., Public Service Directors, members of city planning commission committee on markets, are considering urging immediate construction of municipal market at Eagle Ave. and E. 9th St.; cost, about $2,000,000.

Reported Murphy Hotel Co., 1811 E. 9th St., will erect addition to Gillsy Hotel; cost about $150,000.

Reported Cleveland Telephone Co., Chaplain Ave. and W. 3d St., will erect three new branch exchanges this year to cost $125,000. Robt. G. Pate, commercial supt.

Reported excavation soon to be started on $2,500,000 convention hall. Bids for erection will be called about May 1 by City Archt F. H. Betz.

Reported Elks Club, 1031 Huron Road, will erect club house costing about $200,000. Address H. H. Schleman, secy.

Franklin, O.—School bonds for $100,000 will be sold Jan. 29, by Bd. Educ. (C. W. Unglesby, clk.); certified check for $2,000 to accompany each bid.

Middletown, Ohio.—Election will be held for issuing $120,000 school bonds.

Toledo, O.—Reported Toledo Museum of Art will erect addition to double its size; cost $400,000. E. D. Libbey, pres. bd. directors.

Ironwood, Mich.—Reported Gogebic National Bank is having plans prepared for erecting bank and office bldg. to cost $50,000.

Bloomington, Ill.—Reported Horace Wiggins, mgr. Jefferson Hotel, Peoria, plans promoting hotel company here to erect hotel on E and Washington Sts.; cost, $350,000.

La Crosse, Wis.—Reported Coms. of La Cross Co. are considering plans for erecting tuberculosis sanatorium; cost $50,000.

Madison, Wis.—Reported Y. W. C. A. Bldg. to be erected here soon; cost $100,000. Mrs. Jos. Boyd, pres.

Whitewater, Wis.—Reported Whitewater Normal School calls for an appropriation of $80,000 for erecting commercial building. Wm. Kittle, secy. bd. normal school regents, Madison, Wis.

Burlington, Ia.—Plans completed for Sunnyside school addition by Eckland, Fugard & Knapp, McKinnie Blk., Moline, Ill. Geo. C. Boesch, chmn. bd. educ., Burlington; cost $50,000.

Cedar Rapids, Ia.—See "Reinforced Concrete."

Centerville, Ia.—Bond issue of $150,000 for erecting high school carried. J. B. Brauckshaw, secy. bd. educ.

Des Moines, Ia.—Reported city will erect city building on river front to accommodate jail, police headquarters, health dept. and central fire station, planned by Mayor MacVicar; cost about $310,000.

Sac City, Ia.—Auburn consolidated school district voted in favor of erection of school building; cost $50,000.

Spencer, Iowa.—Reported $65,000 electric light plant will be erected this year.

Vinton, Ia.—Negotiating $50,000 left by will of Mrs. Virginia W. Gay, Vinton, to be used for erecting city hospital.

Duluth, Minn.—Reported Y. M. C. A. at University of Minnesota plans erecting new Y. M. C. A. building in spring. Sufficient money pledged. R. H. Garner, secy., University of Minnesota, Y. M. C. A. Cost $160,000.

Reported M. L. Cohen, jeweler, 239 Nicollet Ave., will rebuild wholesale building at 21 3rd St., recently destroyed by fire with loss of $75,000.

Mahnomen, Minn.—Reported bond issue of $112,000 will be voted soon for erecting school. Geo. E. Lee, city clk.

Minneapolis, Minn.—W. C. Readin, 11 9th St. S., will erect at 11 9th St. S. 4-story brick, steel, tile and reinforced concrete building; cost $88,000.

Reported work soon to begin on new Y. M. C. A. to be erected at 9th St. and Mary Place; cost $400,000. Address Secy. Central Y. M. C. A.

Minneapolis Seed Co., 3444 Railroad Ave., plans erecting $112,000 elevator building at 36th St. and Chicago, Milwaukee & St. Paul Ry. Co.'s right-of-way.

Builders' Exxchange, 17 S. 6th St., will erect 12-story brick, steel and reinforced concrete building on 2nd Ave., S.

St. Cloud, Minn.—Reported Supt. State Reformatory has asked legislature to consider erection of cellhouse, guardroom and chapel; cost $180,000; also industrial building; cost about $65,000.

St. Paul, Minn.—Plans being prepared by Van Ryn & De Gelleke, 726 Caswell Block, for erecting 2-story and basement, 174 x 190-ft. school building on Green Bay Ave. to contain 20 class rooms, auditorium and separate fireproof boiler house; cost $125,000. Address Bd. Educ.

Thief River Falls, Minn.—Citizens voted $50,000 for erecting school building.

Lake Andes, S. D.—Preliminary plans for court house completed; building to be of Roman face brick, terra cotta trim, reinforced concrete, iron stairs, metal lath, skylights, steel sash, roof ventilation; cost $150,000. Charles Mix, co. aud.

Bond election for $150,000 for erecting court house and jail carried. F. J. Keberna, co. aud.

Platte, S. D.—Bond issue of $120,000 or $150,000 to be voted on soon for erecting courthouse. J. N. McFarlin, chairman.

Webster, S. D.—Plans being prepared for erecting high school building; cost $67,000; will be let in spring. Oscar True, clk. Bd. Educ.

Dillon, Mont.—Plans were completed by J. M. Warren, Electric Bldg., for erecting hotel at South Idaho and Glendale Sts., for H. E. Andrus, Dillon; cost $100,000.

Dallas, Tex.—Reported Charles A. Mangold and E. W. Morten will erect 8-story brick hotel building at corner of Houston and Wood Sts. of fireproof construction, to cost about $135,000.

Durant, Okla.—Election will be held for issuing $92,000 bonds for erecting school building.

Seattle, Wash.—See "Reinforced Concrete."

Spokane, Wash. — Report Episcopal Church, missionary dist., will erect cathedral; cost $225,000; also a 4-story parish house.

Enterprise, Ore.—Plans were completed by Tourtellottee & Hummell, Rothchild Bldg., Portland, for erecting school building here; cost $80,000. Bids will soon be received.

Portland, Ore.—Plans being prepared by D. L. Williams, Chamber Commerce Bldg., for erecting 15-story hotel.

Los Angeles, Cal.—L. T. Mayo, 531 Black Bldg., having plans prepared for erecting 200-room, 70 x 235 ft., 4-story brick apartment house on Figueroa St. near 7th St.

Mesa, Ariz.—Maricopa State Mormon church, plans erecting temple to cost $100,000. James W. Lesuer, pres.

Tucson, Ariz.—Reported 5-story addition to Santa Rita Hotel will be erected; cost about $100,000. Louis Iaeger, mgr.

Sandpoint, Idaho.—Plans being prepared by A. G. Riggs, Spokane, for erecting high school; cost $90,000. Bd. educ.

Oka, Quebec.—Monastery of Trappist Monks recently destroyed by fire with loss of $120,000 will be rebuilt.

London, Ont.—Plans will be prepared for erecting red brick and steel addition to hydro substation to cost $50,000. E. V. Buchanan, City Hall, London, gen. mgr.

Plans will be prepared by E. V. Buchanan, City Hall, London, gen. mgr. Utilities Bd., for erecting addition to hydro substation, red brick and steel; cost $50,000.

Sault Ste. Marie, Ont.—Plans being prepared by T. R. Wilks, Farwell Bldg., for erecting brick and stone school building to cost $50,000. Work to begin in spring.

Plans being prepared by McIntyre-Haining-Kelly Constr. Co. for erecting brick business block to cost $75,000. Work to begin in spring.

Toronto, Ont.—The Union Stock Yards Co., Ltd., has under consideration plans for erecting steel, concrete and brick show arena; cost $400,000.

BIDS DESIRED.

Hartford, Conn.—Until Jan. 23, by Bd. Contract & Supply, for erecting north wing to high school building.

Albany, N. Y.—Until Feb. 5 by Bd. Contract and Supply (Isidore Wachsman, secy.) for alterations of City Hall Bldg.; specifications may be obtained from C. G. Ogden and Joseph J. Gander, archts., 61 State St., Albany; advertised in this issue.

Industry, N. Y.—Until Feb. 13, by Mrs. Warham Whitney, pres. Bd. Mgrs., N. Y. State Agri. and Indus. School, Industry, for erecting, heating, plumbing and drainage for new fireproof cottage for boys; advertised in this issue.

Dutch Neck, N. J.—Until Jan. 22, by Bd. Educ., for erecting 2 schools at Penns Neck and Dutch Neck respectively. Alexander Merchant, archt., 363 George St., New Brunswick.

Pittsburgh, Pa.—Until Jan. 19, at offices of City Controller, Municipal Hall, Pittsburgh, and John P. Moore, co. controller, Room 108, Court House, for erecting new city and county building for city of Pittsburgh and county of Allegheny, on site bounded by Grant, Diamond and Rose Sts., and 4th Ave., Pittsburgh; certified check for $1,500 to accompany each bid; specifications may be obtained from Edward B. Lee, and Palmer, Hornbostel & Jones, archts., 345 4th Ave., Pittsburgh, upon deposit of $35.

Philadelphia, Pa.—Until Jan. 29, Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Washington, D. C., for erecting steel frame building at Navy Yard, Philadelphia.

Washington, D. C.—Until Jan. 18, by Elliott Woods, supt. U. S. Capitol Bldg., for erecting and later disposing of inaugural stand at East front of Capitol; plans may be obtained upon payment of $5; certified check for 5 per cent to accompany each bid; advertised in this issue.

Ripley, W. Va.—Reported desired until Feb. 14 (new date), for remodeling court house, 3 story and basement, 51 x 71 ft.; cost about $50,000. L. J. Dean, Foster Bldg., Huntington, archt.

Athens, Ga.—Until Feb. 6 by Bd. Trustees, State Normal School (Jere M. Pound, pres.) for erecting dormitory and academic building; plans may be obtained upon deposit of $25.

Lakewood, Ohio.—Reported desired until Jan. 23, by Bd. Educ. (P. T. Harrold, clk.), for erecting high-school building. C. W. Hopkinson, 9000 Rose Bldg., Cleveland, archt.

Lima, O.—Until Jan. 16 (change of date), by Frank Eberhardt, genl. secy., for erecting Y. M. C. A. building; must be completed 2 years after award of contract.

Somerset, O.—Until Feb. 2 by Bd. Educ. (G. M. Brehm, pres.) for erecting grade and high school building; separate bids for heating, plumbing, and ventilating; plans may be obtained from E. P. Walser, clk., and from F. S. Rusk and Cree Sheets, archts., 145 N. High St., Columbus.

West Park, Ohio.—Reported desired until Jan. 22, by Bd. Educ., for erecting school buildings on Settlement and Longmead Road; Barter, Coghlan & Saunders, 311 Electric Bldg., Cleveland, archts.

Terre Haute, Ind.—Reported desired until Feb. 1, by Bd. Educ. (H. E. Sommers, pres.), 7th and Walnut Sts., for erecting grade school, 2 story and basement, 210 x 82 ft.; cost $125,000. Johnson & Miller, 105 S. 7th St., archts.

Detroit, Mich.—Reported desired until Feb. 13 by Chas. R. Robertson, pres. Detroit Library Comn., West Grand Blvd. and Dix Ave., for erecting new main library building. Cass Gilbert, archt., 11 E. 24th St., New York City, N. Y.

Shell Lake, Wis.—Reported desired until Feb. 1, by Bd. Educ., for erecting grade and high school building; cost about $50,000. E. J. Hancock, 9 McGrath Bldg., Eau Claire, archt.

Sioux City, Ia.—Reported desired until Feb. 5 for erecting and equipping Woodbury County jail; also for 3 elec. elevators for public use, 2 for jail use, 3 for private use, 2 dumb waiters, etc. E. E. Hosmer, co. aud.

Omaha, Neb.—Until about Feb. 1, for erecting 1, 2 and 4-story and basement brick, reinforced concrete, terra cotta, trim. comp. roofing, steam heat, with freight elevator, bakery; cost $150,000. P. H. Anthony, 1109 Waldheim Bldg., Kansas City, Mo., archt.

Isabel, Tex.—Until Feb. 5, at Bureau Yards and Docks (F. R. Harris, chief), Navy Dept., Washington, D. C., for erecting Radio Station buildings; plans may be obtained by applying at above-named bureau.

Sydenham, Ont.—Reported desired until Jan. 18, by R. C. Desrochers, Dept. Pub. Wks., Ottawa, for erecting public building; specifications may be obtained at office Clk. Wks., Postal Station F, Yonge St., Toronto; at post office, Sydenham, and at Dept., Ottawa.

Winnipeg, Man.—Reported desired until Feb. 12, by Thos. H. Johnson, Minister Pub. Wks., for completing now partially erected new Parliament buildings.

PRICES AND LETTINGS

★Indicates award of contract.

★**New York, N. Y.**—Contract awarded by Public Service Commission of the First District to Seventh Avenue Constr. Co., 277 Broadway, for station finish for nine stations on lower Seventh Avenue Subway between Battery and 14th St. inclusive, at $389,880.

New York, N. Y.—See "Reinforced Concrete."

★**Randalls Island, N. Y.** — Contract awarded by Comr. Dept. Public Charities, Mun. Bldg., N. Y. City (bids opened Jan. 5) to John H. Parker Co., 315 Fourth Ave., New York City, for erecting cottage dormitories, staff house and infirmary here at $401,789

★**Newark, N. J.**—Contract awarded Hay Foundry & Iron Works, Newark, for structural steel work on new church for Cathedral of the Sacred Heart at $96,500.

Byberry, Pa.—Reported Edward F. Fonder, Philadelphia, submitted low bid for erecting five 2-story brick, steel and concrete buildings for Philadelphia Institute for Feeble Minded, here, at $631,900. Other bids received: Charles McCaul & Co., $659,000; Henry E. Baton, $675,000; Mitchell Bros., $689,000.

★**Philadelphia, Pa.**—Contract awarded Jacob Meyers Sons Co., The Bourse, Philadelphia, for erecting Sunday School Bldg., 139 x 300 ft., on Greene St. near School Lane; cost about $75,000.

★Contract awarded by Southwark Realty Co. to Frederick Webber, Morris Bldg., Philadelphia, for erecting 12-story apartment house at 16th and Spruce Sts.; cost about $600,000.

Contract awarded Irwin & Leighton, 126 N. 12th St., Philadelphia, for erecting 3-story, 90 x 138 ft., brick office building on Chelton Ave. for Bell Telephone Co.; cost $200,000.

Contract awarded Miller & England, 1124 Washington St., Philadelphia, by Sons of Italy State Bank for erecting bank building at 7th and Christian Sts.; cost $55,000.

New York, N. Y.—Following are unit figures of two lowest bids opened Jan. 3rd by Bd. Public Service Comn. for Route No. 19-22, Sec. No. 1-1A 1 & 2 Station Finish: (a) Seventh Ave. Constr. Co., Inc., 277 B'way, $239,616; (b) Serber Stander Co., Inc., 1123 B'way, $253,787.

		(a)	(b)
501—	9,900 sq. ft. tile, w. g. 3 x 6 in., (a) straight	$ .65	$ .77
	100 sq. ft. tile, w. g. 3 x 6 in., (b) 1-in. rad. comb	.95	1.10
	850 sq. ft. tile, w. g. 3 x 6 in., (c) 2½-in. rad. comb	1.40	1.60
	10 sq. ft. tile, w. g. 3 x 6 in., (d) 20-in. rad. comb	.85	1.00
501a—	45,800 sq. ft. tile, w. g. 3 x 6 in.—6 x 6 in., (a) straight	.63	.75
	60 sq. ft. tile, w. g. 3 x 6 in.—6 x 6 in., (b) 1-in. rad. comb	1.35	1.55
	2,400 sq. ft. tile, w. g. 3 x 6 in.—6 x 6 in., (c) 2½-in. rad. comb	1.38	1.58
	330 sq. ft. tile, w. g. 3 x 6 in.—6 x 6 in., (d) 20-in. rad. comb.	.94	1.10
503—	8,700 sq. ft. tile, w. g. 6 x 6 in., (a) straight	.63	.75
	20 sq. ft. tile, w. g. 6 x 6 in., (b) 1-in. rad. comb	.99	1.15
	170 sq. ft. tile, w. g. 6 x 6 in., (c) 2½-in. rad. comb	1.35	1.55
	10 sq. ft. tile, w. g. 6 x 6 in., (d) 20-in. rad. comb	.94	1.10
509—	20 lin. ft. tile bead, w. g., (a) 1-in. rad	.35	.45
510—	1,200 sq. ft. tile, semi-vit. col., not w. p., (a) straight	1.00	1.10
511—	3,500 sq. ft. tile, semi-vit. w. p. col., (a) straight	1.00	1.10
	110 sq. ft. tile, semi-vit. w. p. col., (b) 1-in. rad. comb	1.40	1.55
	10 sq. ft. tile, semi-vit. w. p. col., (c) 2½-in. rad. comb	2.20	2.45
	40 sq. ft. tile, semi-vit. w. p. col., (d) 20-in. rad. comb	1.95	2.20
513—	9,360 sq. ft. mosaic and tile, bands, col	1.37	1.50
514—	1,750 sq. ft. mosaic and tile, tablets, col	1.50	1.65
515—	530 plaques—mosaic and tile, (a) station walls (each)	1.60	3.55
516—	60 sq. ft. mosaic and tile tablets, destination	1.60	1.80
521—	24,800 sq. yd. plastering, arches, (b) concrete	.56	.63
522—	3,700 sq. yd. plastering, flats, (a) brick or h. t	.55	.58
	9,100 sq. yd. plastering, flats, (b) concrete	.55	.63
	20 sq. yd. plastering, flats, (c) metal lath	.73	.70
523—	10,600 sq. ft. cement work, (a) wainscots	.055	.17
	104,000 sq. ft. cement work, (c) 3-in. floor finish	.12	.125
	9,100 sq. ft. cement work, (d) finish on concrete brick or h. t.	.055	.07
524—	400 cu. ft. concrete work, (a) copings	.95	1.20
	10 cu. yd. concrete work, (b) foundations	10.00	10.00
	70 cu. ft. concrete work, (c) reinforced	1.00	1.10
	160 cu. ft. concrete work, (d) protective	1.00	1.20
	280 cu. ft. concrete work, (e) street landings	.65	.35

New York, N. Y., Route No. 19-22. (Continued)

525—	10	cu. yd. cinder fill	1.50	1.25
526—	920	lin. ft. tr. concrete stairs, (a) self-supporting stairs	1.25	1.55
	4,800	lin. ft. tr. concrete stairs, (c) supported stairs	.80	1.00
	2,000	sq. ft. concrete stairs, (d) supported landings	.30	.25
	20	cu. ft. concrete stairs, (e) supporting columns	1.00	2.00
	3,500	sq. ft. concrete stairs, (f) non-slip treads	.95	1.15
	1,650	lin. ft. concrete stairs, (g) cement bases	.16	.22
	180	lin. ft. concrete stairs, (h) exposed cement finish	.16	.10
	670	sq. ft. concrete stairs, (i) cement finish street landings	.10	.10
527—	8,700	cu. ft. brick masonry, (c) common	.63	.60
528—	100	cu. ft. hollow tile, (a) 2-in.	.73	1.00
	14,900	cu. ft. hollow tile, (b) 3-in.	.61	.62
	3,970	cu. ft. hollow tile, (c) 4-in.	.48	.49
	25	lin. ft. hollow tile, (d) 4½ x 13-in. flue	.38	.50
	1,500	cu. ft. hollow tile, (e) 6-in.	.39	.43
	600	cu. ft. hollow tile, (f) 8-in.	.25	.36
528a—	1,450	weep holes (each)	.30	.20
528b—	440	galv. iron strap anchors (each)	.40	.30
529—	30	sq. yd. metal lath, (a) without furring	.50	.75
	140	sq. yd. metal lath, (b) with furring	1.00	2.25
530—	7	ticket booths, (b) type "B" (each)	1,450.00	965.00
	5	ticket booths, (e) type "E" (each)	1,300.00	1,050.00
532—	3	doors, (a) type "A" (each)	87.65	96.00
	2	pair doors, (b) type "B"	147.25	135.00
	50	doors, (d) type "D" (each)	91.75	100.00
	4	doors, (e) type "E" (each)	77.65	70.00
	44	pair doors, (f) type "G"	68.00	60.00
	5	doors, (g) type "J" (each)	90.50	95.00
	160	sq. ft. doors, (h) type "K"	4.15	4.55
	1	door, (i) type "Q"	40.00	45.00
	15	sq. ft. doors, (l) type "L"	5.00	5.00
	3	doors, (m) type "M" (each)	88.00	75.00
	7	doors, (o) type "P" (each)	40.00	28.00
533—	500	sq. ft. windows, (a) double hung	5.00	4.40
	10	sq. ft. windows, (g) hinged	7.00	4.50
534—	22	additional hardware, (a) door checks (each)	6.00	4.70
	40	additional hardware, (b) swing door stops, except type "G" door (each)	5.00	3.30
	20	additional hardware, (c) rubber-covered chains (each)	4.00	2.10
	22	additional hardware, (d) push plates (each)	5.00	4.00
	22	additional hardware, (e) door pulls (each)	6.00	4.90
	22	pair additional hardware, (f) kick plates (each)	15.00	13.00
536—	500	lin. ft. railings, (a) type "FS"	5.00	4.00
	250	sq. ft. railings, (c) type "GS"	3.00	.65
	25	lin. ft. railings, (e) type "LS"	4.20	4.05
	400	sq. ft. railings, (f) type "BS"	.89	.65
	130	lin. ft. railings, (g) pipe	3.00	1.80
537—	150	lin. ft. gates, (a) low sliding gates	10.05	10.20
	14	Gates, (f) single gate controls (each)	29.80	24.20
	4	gates, (h) c. i. floor boxes (each)	9.00	8.80
	10	lin. ft. gates, (l) 1¼-in. galv. w. i. pipe	.32	.50
	550	lin. ft. gates, (m) 1-in. sq. steel tubing	.65	.61
	22	gate open gates, (p) gate posts, etc., c. i.	72.20	72.00
539—	6	c. i. vent posts (each)	350.00	110.00
540—	15	brackets, etc., (c) frames, illum. signs, suspended (each)	130.00	128.00
	160	sq. ft. brackets, etc., (d) frames, enam. signs, on low railing	2.72	2.53
	210	lin. ft. brackets, etc., (f) enam. reflectors, sta. approach	4.00	2.30
	920	sq. ft. brackets, etc., (g) enam. sign plate	.68	.66
542—	140	lin. ft. street railings, (a) type "K"	10.00	9.10
	600	lin. ft. street railings, (b) type "K"	9.15	8.50
543—	50	lin. ft. tr. steel ladders, (a) bet. stations ladders	5.00	2.40
	50	sq. ft. steel ladders, (b) ladder platforms	1.57	1.43
	7,370	lb. steel ladders, (e) steel lintels	.06	.05
	650	lb. steel ladders, (f) miscel. steel shapes	.07	.07
	28	steel ladders, (g) ladders, steel, track floor to platform (each)	20.00	12.20
543a—	2,470	lb. miscel. iron castings	.09	.09
544—	1,760	lin. ft. oak handrail	.60	.70
546—	1,500	lin. ft. platform edge const., (a) non-slip treads, wood base	1.60	.85
	5,500	lin. ft. platform edge const., (d) wooden facia	.13	.25
	6,600	platform edge const., (e) drilling holes facia angle (per hole)	.25	.22
547—	M	lump su. rough plumbing work, (a) six stations	9,500.00	8,300.00
548—	44	plumbing fixtures, (a) water closet bowls (each)	59.00	50.00
	22	plumbing fixtures, (b) lavatories sta. (each)	44.00	40.00
	4	plumbing fixtures, (c) lavatories, sig. towers, etc. (each)	50.00	35.00
	22	plumbing fixtures, (d) urinals (each)	90.00	85.00
	11	plumbing fixtures, (g) slop sinks, closets (each)	75.00	72.00
	43	plumbing fixtures, (h) floor drains (each)	25.00	15.50
549—	700	lin. ft. 1-in. supply pipe, bet. sta	.25	.30
550—	1,100	sq. ft. structural glass, (aa) ¾-in. wainscoting	1.60	1.76
	1,540	sq. ft. structural glass, (b) ¾-in. pipe ch. partition	1.85	2.04
	520	sq. ft. structural glass, (c) ¾-in. shelves	1.65	1.82
	1,000	sq. ft. structural glass, (d) ¾-in. stall partition	1.95	2.15
	80	sq. ft. structural glass, (e) 1-in. floor slab	5.30	3.63
	330	lin. ft. structural glass, (f) curved corners and angles	1.60	1.76
551—	110	c. i. work, (a) posts (each)	9.90	14.50
	310	lin. ft. c. i. work, (b) top-rails	1.13	1.65
	6	c. i. work, (c) wall-flanges (each)	1.35	2.20
	30	c. i. work, (d) register faces (each)	15.00	11.00
	11	c. i. work, (e) vent louvres (each)	16.20	13.20
552—	10,900	lb. steel supporting shapes	.09	.08
554—	4,230	lin. ft. electric conduits, (a) ¾-in.	.16	.18
	1,135	lin. ft. electric conduits, (b) 1-in.	.18	.21
	2,335	lin. ft. electric conduits, (c) 1½-in.	.25	.29
	1,050	lin. ft. electric conduits, (d) 2-in.	.42	.48
	75	lin. ft. electric conduits, (e) 2½-in.	.60	.70
	75	lin. ft. electric conduits, (f) 3-in.	.70	.80
	360	lin. ft. electric conduits, (g) ¾-in. flexible	.16	.19
554a—	50	special conduit fittings (each)	.85	1.00
555—	175	c. i. outlet boxes (each)	1.00	.48
556—	64	c. i. pull boxes, (f) 6 x 6 x 4 in. (each)	2.00	1.60
557—	34	c. i. heater boxes (each)	20.00	11.50
558—	13	steel panel-board boxes, (h) 25 x 6 x 49 to 60 in. (each)	30.00	20.00
561—	41,800	sq. ft. painting, (a) 2-coat, iron or steel	.025	.025
	95,300	sq. ft. painting, (b) 3-coat, iron or steel	.0275	.03
	432,000	sq. ft. painting, (c) 2-coat, plaster and cement panels	.015	.0175
	670	painting, (d) numerals (each)	.25	.12
601d—	2,100	sq. yd. tooling and dressing concrete wall, sec. 219	.90	1.90
601k—		Lump sum paneled concrete wall, Aldus and Bancroft Sts., sec. 219	5,568.00	8,520.00
601l—	1,300	lin. ft. concrete curbing, sec. 219	.60	1.50

★**Detroit, Mich.**—Contracts awarded by Bd. of Educ. for erecting at Cardoni and Hindle Aves. a school building as follows: General mason, Max Bartholamaei Son & Co., $56,909; carpentry, Ernst Thiede, $20,653; heating, ventilating and plumbing, Irving & Meier, $26,790. Chas. A. Gadd, sec. and bus. mgr. Bd. of Educ.

Casey, Ill.—Contract awarded by Bd. Educ. to W. L. Pierce, Danville, Ill., for erecting and completing Township High School Bldg.

Chicago, Ill.—See "Reinforced Concrete."

★**Iowa City, Ia.**—Contract awarded by Bd. of Educ. (bids opened Dec. 27) for erecting three school bldgs. as follows: General construction, Read McDonald Brewster Co., Minneapolis, Minn., 3 bldgs., $155,077; heating and plumbing, P. J. Gallagher, Faribault, Minn., $34,304 G. L. Lockhart, archt., 391 Endicott Bldg., St. Paul, Minn.

Boone, Ia.—Contract awarded Mr. Zitterell, Webster City, for erecting 3-story and basement business building for F. W. Fitch; cost, $75,000.

★**Lewiston, Mont.**—Contract awarded George J. Hoffman, Rochester, Minn., for erecting $300,000 hotel building here.

★**Ottawa, Ont.**—See "Reinforced Concrete."

★**Swansea, Ont.** — Contract awarded Dickie Constr. Co., Ryrie Bldg., Toronto, for erecting stone church for Morningside Presbyterian Congregation; cost $50,000.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK.

Bremer, Mass.—Reported F. Merrill Co., East Eddington, whose plant was recently destroyed by fire, will rebuild; cost $50,000.

Marblehead, Mass.—Reported Burgess Co. will erect 2-story steel frame, 100 x 100 ft., building to cost $60,000.

New Bedford, Mass.—Reported Continental Wood Screw Co., Hamilton St., will erect 2-story and basement factory, 40 x 260 ft., with separate boiler house, 28 x 38 ft.

Springfield, Mass.—Fiberloid Co. will increase capital stock $1,000,000, proceeds to be used for erecting new building and equipment.

New Britain, Conn.—Reported Landers, Frary & Clark will erect 4-story, 30 x 177-ft. brick factory to manufacture pocket cutlery.

New York, N. Y.—Reported American Can Co., 120 Broadway, will erect 6-story, 309 x 201-ft. factory and garage at 43d St. and 2d Ave., New York.

Rochester, N. Y.—Reported Kellogg Mfg. Co. increased its capital stock from $25,000 to $75,000 and is having plans prepared for erecting 3-story, 50 x 100 ft. factory building and new heating plant.

Middleton, Pa.—Reported H. A. Romberger Co., The Bourse, Philadelphia, will rebuild hosiery mill recently destroyed by fire; cost $100,000.

Philadelphia, Pa.—Reported Megarge Paper Co., S. 6th St., will erect 6-story, 44 x 64-ft. brick and reinforced concrete addition to cost $50,000. E. F. Durang & Son, archts., 1220 Locust St., Philadelphia.

Reported Powelton Storage House, Powelton Ave. and 38th St., will erect 5-story, 30 x 70-ft. addition to cost about $50,000.

Manistique, Mich.—Reported H. W. Selle Co. will erect excelsior plant here; cost, $50,000.

Green Bay, Wis.—Reported Peerless Tire & Rubber Co., incorporated to manufacture auto and bicycle tires, plans erecting plant to cost $50,000. F. E. Burral, J. P. Jennsen reported interested.

Cedar Rapids, Ia.—See "Reinforced Concrete."

Big Fork, Mont.—Reported Glacier Pulp & Paper Co. organized in Minneapolis with L. S. Gillette, 827 Nicollet, as pres., for erecting paper mill; cost $100,000.

Omaha, Neb.—Reported Emerson-Brantingham Implement Co. (P. W. Berry, mgr.) will erect warehouse at 1219 Leavenworth St. to cost $125,000. Work to begin in March.

Plans prepared by John McDonald, 908 Omaha National Bank Bldg., for erecting 5-story and basement, 66 x 132-ft. brick factory building on 17th and Webster Sts. for M. F. Shafer Co. Cost $150,000.

Reported Union Stock Yards Co. (J. R. Dunham, pres.) plans erecting large exchange bld.; cost about $150,000.

Dallas, Tex.—Plans being prepared by Lang & Witchell, Dallas, for 8-story hotel to be erected by C. A. Mangold and E. W. Morten, at Houston and Wood Sts.

Port Angeles, Wash.—A paper and pulp mill will be erected by Whalen Bros. of Mills Creek, B. C.; cost $750,000.

Long Beach, Cal.—Reported Brayton Mfg. & Chemical Co. (Cyril E. Brayton) plans erecting plant for manufacture of strontium nitrate; cost $150,000.

Manteca, Cal.—Reported Spreckels Co., California and Davis Sts., will erect beet sugar plant; cost about $2,000,000.

Nogales, Ariz.—Reported Brockman & Co., 120 Broadway, New York, plans erecting 100-ton oil floating plant at Nogales to handle ores from El Pilar mine in Mexico. A. S. Noon, Nogales, in charge of construction.

Tucson, Ariz.—Reported S. J. Buckingham, Wichita, Kan., plans erecting $350,000 tourist hotel, in spring.

Bathurst, New Brunswick.—Report Bathurst Lumber Co. (Angus McLean, mgr. having plans prepared for new paper mill and for developing 10,000 hp. at Grand Falls.

St. Laurent, Que.—Plans being prepared by W. A. Mahoney, 79 Quebec St., Guelph, Ont., for erecting brick, reinforced concrete mill construction addition to plant of Canada Stove & Foundry Co. (J. St. Germain, mgr.); cost $50,000.

Hamilton, Ont.—Reported Grand Trunk Freight Buildings, destroyed by fire with the loss of $55,000, will be rebuilt at once. J. H. Gordon, supt.

London, Ont.—See "Reinforced Concrete."

London, Ont.—Plans being prepared for erecting plant for manufacture of foods for invalids; cost $60,000. Gordon Philip, Hayman Court Apartments, interested.

Preston, Ont.—Reported factory of the Preston Car & Coach Co., recently damaged by fire with loss of $210,000, will be rebuilt at once. Mr. Campbell, mgr.

Raymond, Alberta.—S. B. Dudley is preparing plans for a grain elevator, capacity 35,000 bushels; cost $60,000.

BIDS DESIRED.

Glasgow, Ky.—Until Feb. 1, for erecting central power plant for Kentucky Utilities Co. (H. Reid, pres.), Lexington; cost about $60,000. C. P. Clay, engr.

Seattle, Wash.—Reported desired until Feb. 16, by Bd. Pub. Wks., for erecting addition to Lake Union steam power plant of city lighting department; cost, about $390,000.

PRICES AND LETTINGS

★Indicates award of contract.

★**Buffalo, N. Y.**—Contract awarded by Schoellkopf Aniline & Chemical Works, Inc., to John W. Cowper Co., Fidelity Trust Bldg., Buffalo, for erection and equipment of power plant, ice manufacturing plant and machine shop. Boiler house will be 121 x 198 ft., 1-story, with 250-ft. brick stack; ice building (200-ton refrigerating capacity), 97 x 125 ft., 2-story, machine shop 90 x 300 ft., 2-story, all steel frame and brick. Equipment for power plant, etc., will include 6 boilers of 1000 hp. each, coal bunkers, automatic coal and ash-handling machinery, stokers, air compressors; 200-ton ice manufacturing machinery, machine shop equipment, etc.

★**Kearney, N. J.**—General contract awarded by Egyptian Lacquer Mfg. Co. to Turner Constr. Co., 11 Bway., New York, for erecting one building, 2-story, 160 x 62 ft., with L 30 x 40 ft.; one 2-story, 120 x 60-ft. office building; 1-story, 60 x 60 ft., and railroad trestle.

Kearny, N. J.—See "Reinforced Concrete."

Cleveland, O.—See "Reinforced Concrete."

Milwaukee, Wis.—See "Reinforced Concrete."

Sioux City, Ia.—See "Reinforced Concrete."

★**Helena, Mont.**—Contract awarded George J. Hoffman, Rochester, Minn., for erecting apartment building; cost $200,000. Rubard Lockey, owner.

★**Portland, Ore.**—Contract awarded Rasmussen-Grace Co., Bates Bldg., Portland, for erecting $100,000 addition to plant of Oregon City Mfg. Co. operating Oregon City Woolen Mills, at Oregon City.

★**North Vancouver, B. C.**—Contract awarded by Canadian Robert Dollar Co. to James McDonald & Co., Standard Bank Bldg., Vancouver, for erecting sawmill buildings and wharf to cost about $200,000.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK.

Albany, N. Y.—Plans being prepared by Engrs. for Northern New York, 467 Bway., Albany (Maj. Jas. F. Ball, ch.) and report will be submitted to War Dept., Washington, D. C., early in spring for a 27-ft. channel in Hudson River between Troy dam and Hudson, which now varies from 15 to 10 ft. deep, to include construction of dikes, concrete lock and dam in Hudson River opposite Troy, replacing antiquated structure, with adjacent channel excavation; total cost about $1,800,000.

Elizabeth, N. J.—County Mosquito Comn. contemplates constructing drains near Elizabeth River in Union Township; cost $16,000. Jacob I. Bauer, co. engr.

Philadelphia, Pa.—See "Miscellaneus."

Anderson, S. C.—Eighteen Mile Creek Drainage Dist. No. 2 recently organized for drainage of 1320 acres in upper part of Anderson, lower part of Pickens and southeastern part of Oconee Counties, to include canal 14 miles long, 10 ft. deep and about 408,000 cu. yd. dirt excav., etc.; cost $33,017. W. H. Shearer, engr., Marshall Ave., Anderson.

Savannah, Ga.—Recommendation for appropriation of $1,919,500 for improvements to harbor have been approved by officials at Washington and has been presented to Congress for approval without change, to consist of widening channel opposite Barnard St. to 600 ft. at cost of $76,000; constructing mooring and turning basin opposite old Ft. Oglethorpe, lower down the river, at $65,000; dredging present channel to 30 ft. to close below St. Augustine Creek, with dam of piles to have crest of 15 ft., cost $10,000; repairing walls, extending jetties, and installing a 20-in. pipe line dredge with outfit and tender for dredging, to cost $250,000.

Lake Charles, La.—Election held Dec. 27 carried in favor of issuing $260,000 bonds for widening and deepening intercoastal canal.

Paducah, Ky.—Plans being prepared by J. E. Johnson, co. engr., for draining Mayfield Creek, about 40,000 acres; cost about $280,000.

Winchester, Ind.—Surveys and estimates are being made for dredging about 21 miles Mississenewa River. A. B. Purdy, engr.

Cissna Park, Ill.—Pond Lily Drainage Dist. contemplates 186,000 cu. yd. excav. and 10 to 36 in. of tile work; estimated cost $73,000. Chas. L. Blake, co. surv., Watseka.

Danville, Ill.—Maple Grove Drainage Dist. contemplates constructing 16 miles tile from 10 to 30 in.; estimated cost $50,000. J. F. Fisher, engr., Danville.

Donovan, Ill.—Big Beaver Levee & Drainage Dist. contemplates drainage and tile work from 10 to 18 in.; estimated cost $16,000. Chas. L. Blake, co. surv., Watseka.

Watseka, Ill.—Blackson Drainage Dist. contemplates 61,500 cu. yd. excav. and tile work 10 to 16 in.; estimated cost $17,000. C. L. Blake, co. surv.

Benson, Minn.—Surveys are being made for constructing Judicial Ditch No. 11; cost $500,000, and Ditch No. 8, cost $150,000. D. P. Carney, co. aud.

Bemidji, Minn.—Residents of Koochiching, Red Lake, Pennington, Clearwater, Beltrami, Polk and Marshall counties are petitioning State Drainage Comn. asking that Red Lake River be deepened from its source in Red Lake to Highlanding, to prevent annual flooding of property along river's bank.

Mankato, Minn.—Ditch bonds for $73,000 have been sold. Clayton L. Kennedy, co. aud.

Thief River Falls, Minn.—Co. Comrs. of Pennington, Marshall and Beltrami counties contemplate constructing drainage ditch known as Judicial Ditch No. 39 to traverse the three counties and drain about 250 sq. miles; cost $250,000.

Little Rock, Ark.—Plans being prepared by Morgan Eng. Co., 608-14 Goodwyn Inst., Memphis, Tenn., for reclamation of 280,000 acres of land in the Keystone Drainage Dist. (A. C. Lang, chmn.) in Mississippi, Craighead and Poinsette counties, to include over 200 miles of ditches and in addition the maximum utilization of the existing channel of Little River and Right-Hand chute.

Texas.—Following permits have been granted by State Bd. Water Engrs., Austin, as follows:

H. J. Lamm, San Antonio, to divert and appropriate 80 acre ft. of water annually from San Antonio River for irrigating about 40 acres in Bextar County.

A. C. Goeth, Austin, to divert and appropriate 11 acre ft. of water annually from Colorado River for irrigating land in Travis County.

Otis Orchard, Wash.—Plans have been prepared by Sawyer Bros., engrs., Lindell Bldg., Spokane, for changing irrigation system of Otis Orchard Co. (Hooker Bell, secy.) from open-flume wooden system to underground system, for which $125,000 has been voted.

Prosser, Wash.—O. Laurgaard, Ry. Exchange Bldg., Portland, reports that the Horse Heaven irrigation project is feasible, and recommends construction of system to irrigate 210,000 acres by gravity at cost of $9,500,000, mainly for canal with capacity of 1250 second ft. and later extending system to cover 300,000 acres in all; total cost $24,000,000.

Anderson, Cal.—Thos. H. Means, 58 Sutter St., San Francisco, consulting engineer for Anderson-Cottonwood Irrigation Dist., reported that it will cost $968,000 in addition to bond issue to complete system.

El Centro, Cal.—See "Reinforced Concrete."

Long Beach, Cal.—City Comrs. contemplate dredging harbor channel No. 3—50 ft. wide and 1500 ft. long. Bonds for $300,000 recently voted. Address Clk. Bd. Pub. Wks.

Madera, Cal.—Bd. Supervs. have approved plans for Chowchilla Drainage Dist., system to cost $150,000. W. C. Hammatt, engr., Hearst Bldg., San Francisco.

Paradise, Cal.—Plans have been approved by P. M. Norboe, asst. state engr. for Paradise Irrigation system, but advises bond issue of from $285,000 to $350,000.

BIDS DESIRED.

New York, N. Y.—Until Feb. 8, at U. S. Eng. Office, Room 710, Army Bldg., 39 Whitehall St., for dredging and rock removal in Hudson River, N. Y., advertised in this issue.

Philadelphia, Pa.—Until Jan. 22, at Bureau Yds. & Docks (F. R. Harris, ch.), Navy Dept., Washington, D. C., for dredging at Philadelphia navy yard.

Savannah, Ga.—Until Feb. 5 at U. S. Engr's Office, Savannah, for dredging harbor; advertised in this issue.

Alexandria, La.—Until March 7, by Bd. Comrs. Red River, Atchafalya & Bayou Boeuf Levee Dist. (E. G. Richard, pres., Melville), for excavating drainage channel from Alexandria to Chatlin's Lake, Parish of Rapids; work includes about 550,000 cu. yd. excavation; deposit, $1,450. Chatlin's Lake to Three Prong Lake, Parish of Avoyelles; work includes about 600,000 cu. yd. excavation; deposit required, $1,600. Three Prong Lake to Big Bayou; work includes about 75,000 cu. yd. excavation; deposit required, $275; bond for one-half amount to accompany each bid. Address Bd. State Engrs., Room 213-215 New Orleans Court Bldg., New Orleans.

Ashland, Ky.—Reported desired until Jan. 19, by county (H. C. Westover, co. aud.), for improving Katotawa branch of Mohican River in Secs. 14 and 25, Montgomery Twp.

Auburn, Ind.—Until Jan. 27, by Bd. Comrs., De Kalb Co., for improving Riccius Ditch in Keyser and Butler Twps., De Kalb Co., and Swan Twp., Noble Co. Clark F. Schloss, co. surv., De Kalb Co.

Walnut, Ia.—Reported desired until Jan. 18 for drilling artesian well. Chas. P. Chase, Clinton, Ia., engr.; O. Mosher, mayor.

New Ulm., Minn.—Until Jan. 29, by Louis G. Vogel, co. aud., for constructing County Ditch No. 35, to include laying about 10,000 ft. of tile.

Deerfield, Kan.—Reported desired until Jan. 23, by town, for constructing drainage system; cost, about $11,000. W. Holbrook, engr.

PRICES AND LETTINGS

★Indicates award of contract.

★**Long Island City, L. I., N. Y.**—Contract awarded (bids opened Dec. 28) by Bd. Health (A. E. Shipley, M.D., secy. pro tem), for ditching, draining or otherwise improving certain areas in salt marsh lands in Boros. of Brooklyn and Queens, including islands in Jamaica Bay: Brown & Simpson, 170 Bway., New York City, $27,900; College Point section within Boro. Queens, Thos. Gidera, Elmhurst, L. I., $5,000.

★**Senatobia, Miss.**—Contract awarded by Comrs. Hickahala Drainage Dist. to Tupelo Dredging Co., Tupelo, at about $80,000, for 1,000,000 cu. yd. excavation and reclaiming 16,000 acres land along Hickahala Creek.

★**Sycamore, Ill.**—Contract awarded F. M. Johnson, Chicago, at $32,000 for deepening and widening 13 miles of drainage ditch and excav. 3 miles of new ditch in Afton and Milan Union Drainage Dist. Hay & Lowman, dist. engrs. Bids opened Dec. 25.

★**Clarion, Ia.**—Contract awarded to John Brandt, Clarion, at $17,417, for constructing drain No. 151, consisting of about 22,372 ft. tile drain, from 6 to 32 in. concrete retaining wall, etc.

★Contract awarded to E. F. Bailey, Belmont, at $27,109, for constructing Drain No. 149, consisting of 43,775 ft. tile drain and sewer pipe from 6 to 36 in.

★**Garner, Ia.**—Contract awarded for Drainage Ditch No. 81 as follows: Open work to F. G. Verrall, Britt, at 12¾ cts; labor to A. A. Hamrey, Forest City, Ia., at $11,521; material (cement) to Hoover Lumber Co., Garner, at $15,135. W. S. Bemis, Jr., constr. engr., Garner.

★**Cambridge, Minn.**—Following are bids opened Jan. 5 by G. C. Smith, co. aud., for constructing Ditch No. 12. I. M. Banta, Wyoming, Minn., $12,440 (awarded contract): The Kohler Constr. Co., Frazee, $13,593; Olson & Johnson, Minneapolis, $13,760; G. E. Gelbertson & Son, St. James, $15,480.

★**Elbow Lake, Minn.**—Following are four lowest bids opened Jan. 3 by County for constructing Ditch No. 23, about 15 miles tile drain: Denniston Tile Co., Fergus Falls, $33,600 (awarded contract); W. C. Markland, Fairmont, $34,743; Farmers Coop Co., Hoffman, $36.000: G. E. Brown Constr. Co., Litchfield, $36,386. Horace Dunaway, drainage engr.

★**Newport, Ark.**—Contract awarded by Jackson Co. for constructing drainage system in Maple Slough Dist.; dredge and scraper work to Carter Bros., Pine Bluff, at 9 cts. per cu. yd.; S. E. Duke, Swifton, $32 per 1000 ft. of timber for bridge work; contract for tile not yet awarded; entire system to cost $70,000.

★**Swifton, Ark.**—Contract awarded by Bd. Comrs. Maple Slough Drainage Dist., to W. B. & E. K. Carter, Mayfield, Ky., at 9 cts. per cu. yd. for 400,000 cu. yd. dredge work and 20 cts. per cu. yd. for 100,000 cu. yd. scraper work. Ferdinand Towney, secy. Dist. (Bids opened Dec. 20.)

★**Blythe, Cal.**—Contract awarded by Palo Verde Mutual Water Co. to Mesmer & Rice, 230 Marsh-Strong Bldg., Los Angeles, at $25,400 for constructing intake gate, control weir and sluice gate for Verde Mutual Water Co., J. G. Allison, engr., 819 Merchants' Natl. Bank Bldg., Los Angeles.

★**Caldwell, Idaho.**—Contract awarded by County to Maney Bros., Oklahoma, Okla., at $114,000 for drainage of 10,000 acres in Co. Drainage Dist. Also same company at $57,000 for draining 5000 acres Nyassa-Arcadia Drainage Dist.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK.

Albany, N. Y.—See "Excavation Drainage and Dredging."

Antwerp, N. Y.—Plans being considered by F. X. Beaumert & Co., for constructing hydro-electric light plant. Anderson & Jones, archts., Carthage.

Ogdensburg, N. Y.—St. Lawrence Marine Ry. Co., Ogdensburg, contemplates constructing line of cribs 280 ft. out into the river; cost about $30,000.

Longport, N. J.—City has reduced cost of erection of sea wall to $35,000, and project will now be carried on.

Philadelphia, Pa.—See "Miscellaneous."

Pennsylvania. — Following applications have been approved by State Water Supply Comn., Harrisburg:

Berks County, Jacob Nolde, to construct dam across Angelica Creek, about two miles from Schuylkill River, in Cumru Township.

Luzerne County, Huntington Valley Camp Meeting Assoc., to construct dam on Shickshinny Creek, Union township.

Savannah, Ga.—See "Excavation Drainage and Dredging."

St. Petersburg, Fla.—See "Miscellaneous."

Conneaut, O.—Ohio Hydro-electric Co., recently incorporated with capital of $1,100,000 for constructing hydroelectric power plants about 5 miles southwest of city on Conneaut and Ashtabula Rivers, near Conneaut.

Indianapolis, Ind.—City sold $116,460 flood prevention bonds.

Tacoma, Wash.—Plans being prepared by Eng. Dept., Chicago, Milwaukee & St. Paul Ry. (C. F. Loweth, ch. engr., Chicago), for constructing addition to wharf; cost $250,000.

Oregon.—Reclamation Comn. has recommended appropriation of $400,000 for constructing Warm Springs Dam on Malheur project, $40,000 for dam on Owyhee project, and $200,000 for King Hill project, Idaho.

San Francisco, Cal.—War Dept. will soon start work of Lobos Creek watershed at Presidio, to include reinforced concrete dam, water mains and sedimentation tanks; cost $80,000.

Arizona.—Following appropriations have been secured for constructing dams: $100,000 to complete diversion dam above Florence; $75,000 to construct canal to carry water from this dam to lands of Indians in Pinal County; $125,000 for another diversion dam near Sacaton to have bridge superstructure; and $98,000 for Indian irrigation enterprise in Arizona. Congressman Hayden, Mesa, Ariz., interested.

Bonners Ferry, Idaho.—City contemplates constructing 1½ miles of levee for flood prevention.

Idaho.—See "Oregon."

Niagara, Ont.—Bylaw for hydro-extension project has been passed and plans will be prepared for developing additional power at Niagara: cost $9,000,000 Sir Adam Beck, London, chmn.

Oil Springs, Ont.—By-law enabling Council to install hydro-electric power at cost of $10,000 has been approved by rate payers.

Port Arthur, Ont.—Dept. Pub. Wks., Ottawa (R. C. Desrochers, secy.), contemplates constructing addition to breakwater; estimated cost $1,500,000.

BIDS DESIRED.

Louisville, Ky.—Until Feb. 10, for removing rock ledge and constructing guide wall below Lock No. 41, Ohio River; advertised in this issue.

PRICES AND LETTINGS

★Indicates award of contract.

New York, N. Y.—Contracts awarded Raymond Concrete Pile Co. (H. R. Moyer, vice-pres.), 140 Cedar St., New York City, for constructing piles in foundations as follows: building of Crucible Steel Co., Harrison, N. J., Wm. H. Taylor, engr.; for dock extension for the National Tube Co., Lorain, O. F. W. Mark, Constr. Co.; coke ovens for the Bethlehem Steel Co., Sparrows Point, Md.; also for coal unloading dock for same company; for Chicago Junction Central Freight Station, loft building in central manufacturing dist. Chicago, Ill., S. Scott Joy, archt., 1118 W. Thirty-fifth St., Chicago; for stack foundation of the Schoellkopf Aniline Wks., Buffalo, N. Y., J. W. Cooper Co., engrs. and contrs.; General Chemical Co. has placed an order for Raymond piles, concrete footings, floor slabs, etc., for building at Edgewater, N. J. R. E. Fowler, engr.

★**Indiana Harbor, Ind.**—Contract awarded by Col. C. S. Richie, Corps Engrs., U. S. A., Chicago, to Great Lakes Dredge & Dock Co., Monroe Bldg., Chicago, Ill., at $360,000 for constructing rubble mound breakwater here.

★**Port Stanley, Ont.**—Contract awarded by Government to M. J. Hogan, Port Burwell, at $135,000, for constructing pier to protect west side of harbor.

TUNNELS AND SUBWAYS

PROPOSED WORK.

Philadelphia, Pa.—See "Miscellaneous."

Reading, Pa.—Chamber of Commerce reported that construction of tunnel from southern section of city to present passenger station for the elimination of grade crossings of Philadelphia & Reading RR. (S. T. Wagner, ch. engr., Philadelphia) is contemplated; cost of $1,250,000 to be paid jointly by city and railroad company.

Lexington, Ky.—City Eng. Dept., J. W. Guyn, city engr., preparing plans for constructing subway to eliminate grade crossing on Versailles Pike at end of West High St.; cost $60,000.

Los Angeles, Cal.—City Council adopted ordinance for constructing tunnel under Bunker Hill at 2d St. from Hill to Figueroa; cost $800,000. John Topham, chmn. Public Wks. Com.

Providence, R. I.—Following are the unit figures and totals of four lowest bids opened Jan. 3 by Providence Water Supply Bd. (B. Thomas, chmn.), for diverting north branch of Pawtuxet River, and constructing concrete conduit, to facilitate subsequent construction of dam and reservoir: (a) E. W. Foley Contr. Corp., 71 Wall St., N. Y., $133,490; (b) Beaver Engineering & Construc. Co., 51 Chambers St., N. Y., $133,590; (c) Michael Staub, Mamaroneck, N. Y., $135,405; (d) Blakeslee & Sons, 58 Waverly St., New Haven, $142,060. Engineer's estimate $165,000.

	(a)	(b)	(c)	(d)
65,000 cu. yd. earth excav.	$0.48	$0.55	$0.35	$0.49
9,000 cu. yd. rock excav.	1.60	2.30	1.50	1.75
55,000 cu. yd. refilling and embanking, compacted in 6-in. layers	.10	.09	.55	.28
500 cu. yd. conc. masonry in channel lining	4.50	3.10	4.70	4.85
8,000 cu. yd. conc. masonry not under Item 4	5.00	3.45	3.75	4.95
12,000 barrels Portland cement	2.25	2.53	2.25	2.20
100 cu. yd. grout	10.00	5.75	7.80	5.50
700 lin. ft. drilling holes in rock and masonry	.50	.60	.50	.80
600 lin. ft. 36-in. steel pipe	12.00	10.45	7.00	8.55
15,000 lbs. miscellaneous steel, w. i. and c. i.	.07	.10	.06	.075
10,000 lbs., receiving, hauling, setting, metal furnished by city	.025	.02	.035	.015
600 lin. ft. tile pipe, 10-in. or less	.40	.55	.75	.75
300 cu. yd. gravel and broken stone	2.50	1.70	2.00	2.50
400 cu. yd. paving and dry masonry	4.50	5.75	4.00	4.00
5,000 ft. B. M., timber and lumber	100.00	115.00	65.00	70.00

BIDS DESIRED.

Philadelphia, Pa.—Until Feb. 6, by Wm. S. Twining, dir., for constructing sections of Delivery Loop Subway; contract Nos. 201, 202, 203; plans may be seen at Room 748, Bourse Bldg., and copies obtained upon deposit of $50; advertised in this issue.

PRICES AND LETTINGS

★Indicates award of contract.

★Trenton, N. J.—Contract awarded for constructing tunnel under canal feder along Belvidere division, and for constructing two bridges: tunnel, John A. Kelley Co., 512 Penn. Bldg., Philadelphia, Pa.; bridges, James McGraw Co., 1010 Commercial Trust Bldg., Philadelphia, Pa.; estimated cost $150,000.

MISCELLANEOUS

PROPOSED WORK.

Transmission Line—Ithaca, N. Y.—Cayuga Power Co. contemplates constructing transmission line from Ithaca to Groton via Freeville with branch lines to villages in that vicinity.

Park, etc.—Atlantic Highlands, N. J.—Election recently held voted in favor of issuing $20,000 bonds for constructing ship channel 500 ft. long, lagoon 350 ft. long, 140 ft. wide, also park in Mannymind Creek; address Borough Clk.

Park—Audubon, N. J.—Geo. L. Brown, former Mayor of Audubon, is interested in New York syndicate that contemplates spending $2,000,000 on large tract of land to be converted into amusement park.

Park—Passaic, N. J.—City Comrs. have appropriated $25,000 for park development. John R. Johnson, park supt.

Civic Center—Trenton, N. J.—City Comrs. contemplate constructing civic center, to cost $1,000,000.

Parkway, etc.—Philadelphia, Pa.—Appropriations by city include following improvements: Constructing Broad St. subway, Frankford elevated road and high-speed lines, $57,100,000; municipal docks and piers, port improvements, Delaware River, $10,000,000; completion of Parkway between city hall and Fairmont Park, $9,000,000; elimination of grade crossings and other allied improvements in So. Philadelphia, $8,940,000.

Fill, etc., St. Petersburg, Fla.—Election to be held by city Feb. 16, to vote on issuing $90,000 for fill for park purposes and constructing seawall.

Garbage Disposal Plant—St. Joseph, Mo.—J. R. Page has been granted franchise to construct garbage disposal plant; cost, $75,000.

Transmission Line — Mineral Springs, Tex.—Nashville Ice, Coal & Light Co., Nashville, contemplates extending transmission line to Mineral Springs.

Rip-Rapping—Williston, N. D.—Federal Government & Great Northern Ry. Co. (A. H. Hoageland, ch. engr., St. Paul, Minn.), will co-operate to build rip-rapping to hold Missouri River within its banks west of city, to extend 5000 ft. along river; cost $60,000.

BIDS DESIRED.

Paving Blocks, Broken Stone, Etc.—Long Island City, L. I., N. Y.—Until Jan. 17, by Maurice E. Connolly, pres. Queens Boro., 4th floor Queens Subway Bldg., 68 Hunterspoint Ave., for furnishing and delivering to Bureau Highways 30,000 asphalt paving blocks, 30,000 cu yd. broken stone, 1500 tons asphaltic cement, 1080 lin ft. c.-i. pipe in Wards 1, 2, 3, 4 and 5; for furnishing and delivering in Queens Boro. bituminous road surfacing material (tar), 80,000 gal. spread upon the roads, 5000 cu. yd. sand grit or broken stone, 14,000 cu. yd. sand, 150,000 gal. asphaltic oil on roads, 80,000 gal. liquid fluid oil, 30,000 wood blocks, 600,000 gal. light road oil, 450 tons of limestone or any other suitable inorganic dust, 100 net tons hydrated lime to Newtown disposal plant (2d Ward), 270 net tons lime to Jamaica (4th Ward) and Far Rockaway (5th Ward) disposal plants; security 30 per cent for each item

Stone, asphalt, etc., New York, N. Y.—Until Jan. 22, by Marcus M. Marks, boro. pres., for furnishing and delivering 4500 tons limestone dust, 11,500 cu. yds binder stone, 600,000 gals refined asphalt, 500 tons refined asphalt in packages, and for 20,000 bags Portland cement to be delivered at Municipal Asphalt Plant, Ninetieth St. and East River, City.

Broken Stone—West Orange, N. J.—Until Jan. 16, by city (John R. Kling, chmn. St. Committee), for delivering and furnishing broken stone, 1½ in, and ¾ in., and dust (gross ton delivered), bond to amount of $600 required on award of contract. George W. Foster, town clk.

Track elevation, Philadelphia, Pa.—Until Jan. 18, by Dept. Pub. Wks., for following first section of work in connection with South Philadelphia Track Elevation: grading, constructing and reconstructing sewers, laying and relaying water mains, setting and resetting curbs, paving and repaving, roadway and sidewalk and appurtenant work in Twenty-fifth St., Washington and Gray's Ferry Aves., and adjacent streets; and also for removing buildings and other obstructions in Twenty-fifth St., between Washington and Point Breeze Aves., entire track elevation to cost about $1,000,000.

Fire Escapes—East Moline, Ill.—Until Jan. 23, by Bd. Adminis. (Frank D. Whipp, fiscal superv.), Capitol Bldg., Springfield, for furnishing and installing fire escapes on Annex Bldg., Watertown State Hospital; plans may be obtained from Hon. James B. Dibelka, state archt., 130 N. 5th Ave., Chicago.

Pine Piles—Philadelphia, Pa.—Until Feb. 5 by Lighthouse Inspector, for furnishing about 80 yellow pine piles; advertised in this issue.

Cranes—Philadelphia, Pa.—Until Jan. 22 at Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Washington, D. C., for constructing structural steel crane runway for shipbuilding slip at U. S. Navy Yard, Philadelphia.

Air Compressors, Air Lock, etc.—New Orleans, La.—Until Feb. 19, by Lighthouse Inspector, for sale by Lighthouse Service, of air compressors, air lock, steam boilers, etc.; article may be seen at Lighthouse Depot, Choctaw Point, Mobile, Ala., advertised in this issue.

Oil Engine—Jacksonville, Ill.—Until Jan. 22, by Bd. Comrs., Valley Drain and Levee Dist., at office Jacksonville Engr. Co., City Hall, for furnishing and erecting 125-hp. oil engine. Advertised in this issue.

Air Blowers, Summerland, Cal.—Until Jan. 30, by Bd. Awards, Dept. Agriculture, Washington, D. C., for furnishing 3 air blowers, 4,000 cu. ft. capacity; advertised in this issue.

Crane, Buckets, Etc.—Summerland, Cal.—Until Jan. 19 by Bd. Awards, Dept. Agriculture, Washington, D. C., for furnishing two power-operated cranes, grab-buckets, and one power conveyor for use in handling kelp.

Motors—Summerland, Cal.—Until Jan. 30 by Bd. Awards, Dept. Agriculture, Washington, D. C., for furnishing 14 motors from 2 to 20 hp. for alternating current, variable speed types; advertised in this issue.

PRICES AND LETTINGS

★Indicates award of contract.

★Stone — Newburyport, Mass.—Contract awarded by U S. Engrs., Boston, to Rockport Granite Co., Boston, at $17,480 for rubble stone in jetty at Newburyport Harbor. Bids opened Dec. 15.

Road Oil—Mt. Holly, N. J.—Following bids opened Jan. 1 by Jas. Logan, co. engr., for (a) supplying road oil; (b) heavy oil, for county for year 1917: U. S. Asphalt Refining Co., 90 West St., New York City, (a) 66 cts., (b) 73 cts.; Barber Asphalt Co., Woolworth Bldg., New York City, (a) 78 cts., (b) 78 cts.; Logan & Hathaway, 9 Clinton St., Newark, (a) 68 cts., (b) 74.6 cts.; Standard Oil Co., 77 W. 11th St., Bayonne, N. J., (b) 52 cts.; Atlantic Refining Co., 3144 Passayunk St., Philadelphia, (b) 63.8 cts. Prices given per gallon, designation in tank cars within Burlington Co.

Cranes—Washington, D. C.—Following are bids opened Jan. 2 by Bureau Yards & Docks, Navy Dept., Washington, D. C., for bridge crane and wall cranes at Navy Yards, Norfolk and Philadelphia:

Norfolk: (a) 80-ton bridge crane complete, (b) 3 15-ton bridge cranes, (c) 1 80-ton and 3 15-ton bridge crane, (d) 6-ton wall cranes, (e) 3 15-ton bridge cranes and 6 5-ton wall cranes, (f) 1 80-ton bridge crane, 3 15-ton bridge cranes and 6 5-ton wall cranes, (g) 3-ton wall cranes, (h) add to b, c, e and f for each additional 15-ton crane up to total of 6; (i) add to d, e and f for each additional 5-ton wall crane up to total of 18; (j) add to g for each additional 3-ton wall crane up to total of 12; (k) change in price, if any, for "dinkey" controllers Niles-Bement-Pond Co., 111 B'way, New York, N. Y.—(a) $38,000, 300 days; (b) $42,000, 250 days; (c) $80,000, 300 days; (d) $33,000, 600 days; (e) $75,600, 250 days; (f) $113,600; (g) $20,800, 250 days; (h) $14,000, 30 days; (i) $5,600, 30 days; (j) $5,200, 30 days; (k) no change. Penn Bridge Co., Bond Bldg., Washington, D. C. (a) $41,737, 300 days; (b) $37,800, 250 days; (h) $12,000. Cleveland Crane & Eng. Co., Wickliff, O.—(a) $76,335, 365 days; (b) $90,490, 300 days; (c) $166,825, 365 days; (d) $79,080,465 days; (e) $169,570, 495 days; (f) $169,570, 495 days; (g) $48,860, 435 days; (h) $30,510, 30 days additional; (i) $13,180, 45 days for each crane; (j) $12,215, 45 days for each crane; (k) no change.

Philadelphia: (a) 2 15-ton bridge cranes, (b) 4 5-ton wall cranes, (c) 2 15-ton bridge cranes, (d) 4 3-ton wall cranes up to total of 6, (f) add to item b and c for each additional 5-ton wall crane to total of 12, (g) add to item d for each additional 3-ton wall crane up to total of 8, (h) change in price, if any, for "dinkey" controllers, no charge, no change. Niles-Bement-Pond Co.—(a) $28,000, 360 days; (b) $22,400, 360 days; (c) $50,400, 360 days; (d) $20,800, 360 days; (e) $14,000, 30 days; (f) $5,600, 30 days; (g) $5,200, two cranes, 30 days; (h) no change Penn Bridge Co.—(a) $26,880, 300 days; (e) $12,600. Cleveland Crane & Eng. Co.—(a) $61,020, 300 days; (b) $52,720, 465 days; (c) $113,740, 495 days; (d) $48,860, 465 days; (e) $30,510, 30 days each; (f) $13,180, 45 days; (g) $12,215, 45 days; (h) no change.

Lock and Guide Walls—Wheeling, W. Va.—Following are totals and unit figures of four lowest bids opened Dec. 30 by Maj. T. H. Jackson, Corps Engrs., U. S. A., Wheeling, for constructing lock and guide walls for Dams 23 and 25, Ohio River: (a) National Contr. Co., 211 Citizens' Bank Bldg., Evansville, Ind., $486,929 Dam No. 23, $506,984 Dam No. 25; (b) Sheridan Kirk Contr. Co., Portsmouth, O., $488,049 Dam No. 23, $530,853 Dam No. 25; (c) Maryland Dredg. & Contr. Co., 1515 Fidelity Bldg., Baltimore, Md., $535,012 Dam No. 23, $587,755 Dam No. 25; (d) Monongahela & Ohio Dredg. Co., 407 4th Ave., Pittsburgh, $627,354 Dam No. 23, $666,290 Dam No. 25.

	(a)	(b)	(c)	(d)
For Dam No. 23				
900 lin. ft. cofferdam, lock	$40.00	$25.00	$40.00	$65.00
1,260 lin. ft. cofferdam, guide walls	15.00	15.00	25.00	35.00
100,000 cu. yd. common excavation	.75	.80	1.10	1.10
17,900 sq. ft. rock channeling	.80	1.10	1.00	1.50
3,300 cu. yd. rock excavating	4.00	4.00	4.00	5.00
22,500 cu. yd. fill	.40	.60	.50	.70
1,500 cu. yd. riprap	3.00	4.00	3.00	6.00
1,000 oak timber	....	....	....	....
6,600 ft. b. m	100.00	100.00	150.00	100.00
41,000 cu. yd. concrete	7.15	7.15	7.00	7.80
2,100 cu. yd. concrete paving	7.50	7.00	7.00	8.50
872 lin. ft. tile drain	.75	2.00	1.00	2.00
205,520 lb. unloading, caring for and placing structural steel	....	....	....	....
For Dam No. 25				
900 ft. cofferdam, lock	40.00	25.00	40.00	65.00
1,260 lin. ft. cofferdam, guide walls	15.00	15.00	25.00	35.00
113,400 cu. yd. common excavation	.70	.70	1.00	1.00
19,000 sq. ft. rock channeling	.75	1.00	1.00	1.00
3,800 cu. yd. rock excavation	3.50	4.00	4.00	5.00
27,500 cu. yd. fill	.40	.60	.50	.70
1,400 cu. yd. riprap	3.00	4.00	3.00	5.00
1,000 oak timber	....	....	....	....
6,600 ft. b. m	100.00	100.00	150.00	100.00
47,500 cu. yd. concrete	6.50	7.00	7.00	7.60
1,900 cu. yd. concrete paving	7.50	7.00	7.00	8.50
815 lin. ft. tile drain	.75	2.00	1.00	2.00

★**Garbage—Jersey City, N. J.**—Contract awarded by M. I. Fagen, city clk., for collection and disposal of garbage, refuse, etc., for period of 5 yrs. to Harrington Bros., Montgomery St., Jersey City, at $590,000. (Bids opened Jan. 2).

★**Cement, Tampa, Fla.**—Contract awarded W. R. Fuller, Tampa, for supplying 10,000 bbls. cement for use in constructing highway between Gainesville and Tallahassee.

★**Guard Wall—Cincinnati, O.**—Contract awarded by Maj. W. P. Stokey, Corps Engrs., U. S. A., to Clifton Bros., Zanesville, at $14,878 for constructing extension below abutment Dam No 4, part of guide wall and a guard wall at Dam No 8, also extension of revetment at Muskingum River. Bids opened Dec. 11.

★**Lock Gate—Cincinnati, O.**—Contract awarded by U. S. Engrs., 1st Dist., to Independent Bridge Co., Pittsburgh, Pa., at $103,491 for erecting lock gates for Dams 31 and 35, Ohio River. Bids opened Dec. 19. For detail of bid see Dec. 30 issue.

★**Lock Gate—Cincinnati, O.**—Contract awarded to Independent Bridge Co., Pittsburgh, Pa., at $47,200 for erecting lock gate for Dam No 21, Ohio River.

★**Locks—Gallipolis, O.**—Contract awarded to National Contract Co., Evansville, Ind., for constructing government locks Nos. 23 and 25 at $651,923 and $506,984 respectively, to be located one mile below mouth of Kanawha River.

★**Boilers—Detroit, Mich.**—Following bids opened Dec. 26 by Lighthouse Inspector for constructing boilers for the lighthouse: Duluth Boiler Wks., Duluth, Minn., $19,400 (awarded contract); Valk & Murdoch Co., Charleston, S. C., $16,876; S. Freeman & Sons Mfg. Co., Racine, Wis., $19,500; Lake Erie Boiler Wks., Buffalo, N. Y., $19,800.

★**Cement, Kenosha, Wis.**—Contract awarded Dunnebacke Co., at $57,000, for furnishing cement for county highways. Russell H .Jones, co. aud.

★**Sand and Rock—Portland, Ore.**—Contract awarded by City Purchasing Agent to Columbia Contract Co., at 44 cts., for sand and 93 cts. for rock, for supplying city with same for a period of 1 year.

★**Cranes—Vallejo, Cal.**—Contract awarded by Bureau Yards & Docks, Navy Dept., Washington, D. C., to Wellman-Seaver Morgan Co., Cleveland, at $481,500 for two 250-ton floating revolving cranes at Mare Island Navy Yard

★**Fitting Out Cranes—Vallejo, Cal.**—Contract awarded by Bureau Yards & Docks, Navy Dept., Washington, D. C., to Edw. F. Terry Mfg. Co., Grand Central Terminal, New York, N. Y., at $41,990 for two fitting out cranes at Mare Island Navy Yard. Bids opened Dec. 18.

Proposals

For Proposals Advertised See Pages 35-36-37.

WATER WORKS AND SEWERAGE SYSTEMS

Bids Close.		See Eng. Record.
Jan. 16.	Toronto, Ont.	Dec. 9
Jan. 16.	Park Ridge, Ill.	Jan. 6
Jan. 17.	La Fayette, Ind.	Dec. 23
Jan. 17.	Brooklyn, N. Y.	Jan. 6
Jan. 17.	Baltimore, Md. Adv. Jan. 13.	Jan. 13
Jan. 18.	Alliance, O. Adv. Dec. 30, Jan. 6.	Dec. 30
Jan. 18.	Muscatine, Ia.	Jan. 6
Jan. 18.	Brooklyn, N. Y.	Jan. 13
Jan. 18.	Brooklyn, N. Y.	Jan. 13
Jan. 18.	Cincinnati, O.	Jan. 13
Jan. 19.	Akron, O.	Jan. 13
Jan. 22.	New York, N. Y.	Jan. 13
Jan. 22.	Detroit, Mich.	Jan. 13
Jan. 23.	Dows, Ia.	Jan. 6
Jan. 24.	Hanover, Pa.	Jan. 13
Jan. 25.	Spirit Lake, Ia. Adv. Jan. 13.	Jan. 13
Jan. 28.	Pineville, Ky.	Jan. 13
Feb. 5.	Rockwell City, Ia.	Dec. 9
Feb. 5.	St. Paul, Minn. Adv. 23.	Dec. 23
Feb. 6.	Flint, Mich. Adv. Jan. 13.	Jan. 13
Mar. 1.	Springfield, Ill.	Jan. 13
Mar. 6.	Chilton, Wis.	Dec. 2
Apr. 1.	Gibson, Ill.	Dec. 23
Apr. 1.	Mt. Vernon, O.	Dec. 23
Jun. 1.	Calcutta, India	Dec. 23
———	Douglas, Wyo. Adv. Dec. 16.	Dec. 23

STRUCTURAL STEEL WORK

Jan. 16.	Warrensburg, Mo.	Jan. 6
Jan. 17.	York, S. C.	Jan. 6
Jan. 17.	Riverside, Cal.	Jan. 6
Jan. 18.	Knoxville, Ia.	Dec. 23
Jan. 29.	Ada, Minn.	Jan. 13
Jan. 29.	Wadena, Minn.	Jan. 13
Feb. 1.	Bucyrus, O.	Jan. 6
Feb. 1.	Galion, O.	Jan. 6
Feb. 5.	Schuyler, Neb.	Jan. 13
Feb. 6.	Philadelphia, Pa. Adv. Jan. 13.	Jan. 13
Feb. 6.	Wayne, Neb.	Jan. 13
Feb. 7.	Philadelphia, Pa. Adv. Jan. 13.	Jan. 13

REINFORCED CONCRETE

Jan. 16.	Nevada, Ia.	Jan. 6
Jan. 17.	Manhattan Beach, Cal.	Jan. 6
Jan. 17.	Sac City, Ia.	Jan. 13
Jan. 20.	Greenup, Ill.	Dec. 30
Jan. 22.	Houston, Tex.	Dec. 30
Jan. 22.	Los Angeles, Cal.	Jan. 6
Jan. 23.	Kansas City, Mo.	Jan. 13
Jan. 25.	Norristown, Pa. Adv. Jan. 13.	Jan. 13
Jan. 26.	Earlington, Ky.	Jan. 13
Jan. 27.	Hemphill, Ky.	Jan. 13
Jan. 29.	Seeley, Cal.	Jan. 13
Jan. 30.	Nashville, Tenn. Adv. Jan. 6, 13.	Jan. 6
Feb. 12.	Wayne, Neb.	Jan. 13

ROADS AND PAVING

Jan. 15.	Bolton, Conn. Adv. Jan. 13.	Jan. 13
Jan. 16.	Park Ridge, Ill.	Jan. 6
Jan. 16.	Amsterdam, N. Y.	Dec. 30
Jan. 16.	Wilkes-Barre, Pa.	Dec. 23
Jan. 16.	Bristow, Okla.	Jan. 6
Jan. 16.	Ohio	Jan. 13
Jan. 17.	Illinois	Jan. 13
Jan. 17.	Brooklyn, N. Y.	Jan. 13
Jan. 18.	Linden, Ala.	Jan. 6
Jan. 19.	Keyport, N. J.	Jan. 6
Jan. 19.	Pretonsburg, Ky.	Jan. 6
Jan. 20.	Lakeland, Fla. Adv. Jan. 13.	Jan. 6
Jan. 22.	Upland, Cal.	Dec. 30
Jan. 24.	Pikeville, Ky.	Jan. 6
Jan. 25.	Lake Charles, La.	Jan. 6
Jan. 25.	Norton, Va.	Jan. 6
Jan. 25.	Spirit Lake, Ia. Adv. Jan. 13.	Jan. 13
Jan. 26.	Salyersville, Ky.	Jan. 6
Jan. 26.	Gallipolis, O.	Jan. 13
Jan. 26.	Clintwood, Va.	Jan. 13
Jan. 28.	Earlington, Ky.	Jan. 13
Jan. 29.	Hindman, Ky.	Jan. 6
Jan. 29.	Gainesville, Fla.	Jan. 6
Jan. 29.	Frenchburg, Ky.	Jan. 13
Jan. 29.	Lebanon, Ind.	Jan. 13
Jan. 31.	Ravenna, O.	Jan. 6
Jan. 31.	Jacksonville, Fla.	Jan. 13
Jan. 31.	Wise, Va.	Jan. 13
Feb. 1.	Appalachia, Va.	Jan. 6
Feb. 1.	Cedar Rapids, Ia.	Nov. 18
Feb. 1.	Cicero, Ill.	Dec. 30
Feb. 1.	Zeeland, Mich.	Jan. 13
Feb. 4.	Mt. Vernon, Tex.	Jan. 13
Feb. 5.	Montevideo, Minn.	Jan. 13
Feb. 6.	Neshanic, N. J.	Dec. 30
Feb. 6.	Mt. Olivet, Ky.	Jan. 13
Feb. 6.	Hillsboro, N. J.	Jan. 13
Feb. 12.	Irvine, Ky.	Jan. 6
Mar. 18.	Kent, O.	Dec. 30
Apr. 1.	Virginia, Ill.	Jan. 13

INDUSTRIAL PLANTS AND WAREHOUSES

Feb. 1.	Glasgow, Ky.	Jan. 13
Feb. 5.	Vallejo, Cal.	Jan. 6
Feb. 16.	Seattle, Wash.	Jan. 13

BUILDINGS
Public and Private

Jan. 16.	Aspinwall, Pa.	Dec. 30
Jan. 16.	Jonesboro, Ark.	Jan. 6
Jan. 16.	Lima, O.	Jan. 13
Jan. 17.	Albany, N. Y. Adv. Dec. 23 to Jan. 13.	Dec. 23
Jan. 18.	Marion, S. C. Adv. Nov. 25, Dec. 2.	Nov. 25
Jan. 18.	Leesburg, Ga.	Jan. 6
Jan. 18.	West Chester, Pa.	Jan. 6
Jan. 18.	Sydenham, Ont.	Jan. 13
Jan. 18.	Washington, D. C. Adv. Jan. 13.	Jan. 13
Jan. 19.	Wenatchee, Wash.	Jan. 6
Jan. 19.	Charlotte, Mich.	Dec. 16
Jan. 19.	Pittsburgh, Pa.	Jan. 13
Jan. 21.	Philadelphia, Pa.	Dec. 30
Jan. 22.	Richfield, Utah	Dec. 16
Jan. 22.	Fremont, Neb.	Dec. 23
Jan. 22.	Dutch Neck, N. J.	Jan. 13
Jan. 22.	West Park, O.	Jan. 13
Jan. 23.	Charlestown, W. Va.	Jan. 6
Jan. 23.	Hartford, Conn.	Jan. 13
Jan. 23.	Lakewood, O.	Jan. 13
Jan. 24.	Minot, N. D.	Jan. 6
Jan. 26.	Waterloo, N. Y.	Dec. 30
Jan. 27.	Jacksonville, Fla.	Jan. 6
Jan. 29.	Philadelphia, Pa.	Jan. 13
Feb. 1.	Peoria, Ill.	Jan. 6
Feb. 1.	Chehalis, Wash.	Dec. 16
Feb. 1.	Shell Lake, Wis.	Jan. 13
Feb. 1.	Omaha, Neb.	Jan. 13
Feb. 1.	Terre Haute, Ind.	Jan. 13
Feb. 5.	Isabel, Tex.	Jan. 13
Feb. 5.	Albany, N. Y. Adv. Jan. 13.	Jan. 13
Feb. 5.	Sioux City, Ia.	Jan. 13
Feb. 6.	Athens, Ga.	Jan. 13
Feb. 12.	Moultrie, Ga.	Jan. 6
Feb. 12.	Winnipeg, Man.	Jan. 13
Feb. 13.	Industry, N. Y. Adv. Jan. 13.	Jan. 13
Feb. 13.	Detroit, Mich.	Jan. 13
Feb. 14.	Ripley, W. Va.	Jan. 13
Feb. 14.	Morgantown, W. Va.	Jan. 6
Feb. 15.	Escanaba, Mich.	Dec. 30
Feb. 16.	McComb, Miss.	Jan. 6
Feb. 19.	Barnesville, Ga.	Jan. 6
Mar. 1.	Rochester, Minn.	Jan. 6
May 1.	Minneapolis, Minn.	Nov. 25

FOUNDATIONS, PIERS AND DAMS

Jan. 16.	New Orleans, La.	Dec. 30
Jan. 24.	Port Aransas, Tex. Adv. Dec. 30 to Jan. 13.	Dec. 30
Jan. 24.	New Orleans, La.	Dec. 30
Jan. 29.	Philadelphia, Pa.	Dec. 23
Feb. 10.	Louisville, Ky. Adv. Jan. 13.	Jan. 13

EXCAVATION, DREDGING AND DRAINAGE

Jan. 18.	Glenwood, Ia.	Jan. 6
Jan. 18.	Walnut, Ia.	Jan. 13
Jan. 19.	Ashland, Ky.	Jan. 13
Jan. 20.	Gaylord, Minn.	Dec. 23
Jan. 22.	Philadelphia, Pa.	Jan. 13
Jan. 23.	Rockwell City, Ia.	Dec. 23
Jan. 23.	Deerfield, Kan.	Jan. 13
Jan. 25.	Crookston, Minn.	Dec. 16
Jan. 27.	Auburn, Ind.	Jan. 13
Jan. 29.	New Ulm, Minn.	Jan. 13
Jan. 29.	Norfolk, Va. Adv. Dec. 30 to Jan. 13.	Dec. 30
Feb. 1.	Coalinga, Cal.	Dec. 23
Feb. 5.	Savannah, Ga. Adv. Jan. 13.	Jan. 13
Feb. 8.	New York, N. Y. Adv. Jan. 13.	Jan. 13
Mar. 7.	Alexandria, La.	Jan. 13

TUNNELS AND SUBWAYS

Feb. 6.	Philadelphia, Pa. Adv. Jan. 6, 13.	Jan. 6

MISCELLANEOUS

Jan. 16.	Broken Stone, W. Orange, N. J.	Jan. 13
Jan. 17.	Paving Blocks, Broken Stone, Etc., Long Island City, L. I., N. Y.	Jan. 13
Jan. 18.	Fire Hydrants, Atlantic City, N. J. Adv. Jan. 6.	Jan. 6
Jan. 18.	Transmission Line, Keyport, Wash.	Jan. 6
Jan. 18.	Track Elevation, Philadelphia, Pa.	Jan. 13
Jan. 19.	Conveyor, Summerland, Cal.	Jan. 13
Jan. 22.	Cranes, Philadelphia, Pa.	Jan. 13
Jan. 22.	Oil Engine, Jacksonville, Ill. Adv. Jan. 13.	Jan. 13
Jan. 22.	Stone, Asphalt, Etc., New York, N. Y.	Jan. 13
Jan. 23.	Fire Escapes, East Moline, Ill.	Jan. 13
Jan. 25.	Lift, Salt Lake City, Utah.	Jan. 6
Jan. 30.	Motors, Summerland, Cal. Adv. Jan. 13.	Jan. 13
Jan. 30.	Air Blowers, Sommerland, Cal. Adv. Jan. 13.	Jan. 13
Feb. 5.	Pine Piles, Philadelphia, Pa. Adv. Jan. 13.	Jan. 13
Feb. 19.	Air Compressors, Air Locks, Etc., New Orleans, La. Adv. Jan. 13.	Jan. 13

January Dividend Disbursements Much Larger Than Last Year

Car Shortage Cut in Half, According to December 31 Report—Structural Orders Heavy in Past Month

THE GENERAL PROSPERITY of the country, and especially of the railroads, is shown by the estimates of dividend disbursements at the beginning of the present year. Dividends distributed by industrial corporations in this country are expected to amount to more than $65,000,000, as compared with $51,000,000 for last year, while those distributed by railroads will probably exceed $32,000,000, as compared with $26,000,000 disbursed at the beginning of 1916. Great business activity is extending throughout the South, where exports of cotton are one-third larger than those in the last year, and bank clearings have increased 65 per cent as compared with those of last summer.

That the freight-car shortage is rapidly growing less serious is indicated by the Jan. 16 statement of the American Railway Association, which shows a net shortage of only 59,892 cars on Dec. 31. This compares with net shortages of 107,708 on Dec. 1 and 114,908 on Nov. 1. An idea of the volume of transportation business which produced this shortage is afforded by the statement that the railroads now own 2,518,855 freight cars, whereas ten years ago, the last time shipping requirements seriously exceeded capacity, they possessed little more than 1,800,000 cars.

It is believed that, with the freight situation improving, purchasing agents will do well to cover lumber requirements. The manufacturers contend that prices have not yet advanced in anything like the same proportion as prices of other materials, and that a much greater demand for lumber is in sight, owing to increased funds placed in the hands of consumers by the general prosperity and to the high cost of other classes of construction.

Structural-steel orders placed during December are estimated at 148,000 tons, or 86 per cent of the fabricating capacity of the entire country. While this figure is considerably larger than orders for any recent month, it appears usual for structural orders to be large at the beginning of the year, and the tonnage placed last month is less than three-fourths of that reported closed in December, 1915.

Roads and Paving

Street and highway work noted in this issue includes the following items:

Contract awarded:	Kind	Cost
Hanford, Cal.	Bitulithic	$188,000
Bids desired:		
Grayson, Ky.	Highways	125,000
Springfield, Ohio	Paving	115,000
Proposed work:		
Richmond, Va.	Parkway	144,000
Columbia, S. C.	Paving	260,000
Cincinnati, Ohio	Granite	225,000
Paducah, Ky.	Highways	200,000
Plymouth, Ind.	Gravel roads	500,000
Davenport, Iowa	Asphalt	300,000
Corsicana, Tex.	Bonds sold	150,000
Washington	Highway	327,000
Coalinga, Cal.	Highway	3,000,000

Buildings

Large building projects appear to be becoming more numerous. Those noted in this issue which exceed $300,000 are summarized in the following table:

Contracts awarded:	Kind	Cost
Superior, Wis.	Car shops	$300,000
Great Falls, Mont.	Car shops	400,000
Proposed work:		
Perth Amboy, N. J.	Chemical plant	1,000,000
Palo Alto, Pa.	Car barns	600,000
State College, Pa.	College building	1,742,000
Wheeling, W. Va.	Bottle plant	2,000,000
Cincinnati, Ohio	Masonic temple	300,000
Minneapolis, Minn.	Substation	500,000
Minneapolis, Minn.	Office building	750,000
Minneapolis, Minn.	Apartment	350,000
St. Paul, Minn.	Terminal	3,000,000
Sioux City, Iowa	Store	600,000
Eldorado, Kan.	Refinery	300,000
Santa Barbara, Cal.	Hotel	300,000
Spokane, Wash.	Coliseum	500,000

Waterworks and Sewers

Waterworks and sewer construction noted in this issue includes among the larger items the following:

Contracts awarded:	Kind	Cost
Milwaukee, Wis.	Intercepting sewer	$379,000
Houston, Tex.	Sanitary sewer	138,000
Bids opened:		
Portland, Ore.	Trunk sewer	308,000
Bids desired:		
Savannah, Ga.	Storm sewer	.....
Milwaukee, Wis.	Sewer tunnel	.....
Proposed work:		
Bridgeport, Conn.	Sewers	1,245,000
Reading, Pa.	Sanitary sewer	200,000
Lansdale, Pa.	Sewer system	225,000
Johnstown, Pa.	Sewage disposal	178,000
Lynchburg, Va.	Water supply	350,000
Monroe, Wash.	Waterworks	125,000
Windsor, Ont.	Water supply	1,900,000

Miscellaneous Headings

Plans have been completed by the bridge department of New York City for another highway bridge across the East River, extending from the Bronx to Astoria, L. I. Such a structure would cost more than $10,000,000. The sum of the lowest bids received Jan. 10 for furnishing and erecting a section of elevated railroad in Brooklyn, N. Y., was $1,689,000. A contract has been awarded for constructing a $350,000 pier at Philadelphia. The rivers and harbors appropriation bill as finally agreed upon includes $50,000 for dredging channels in New York harbor.

Surveys are being made at Philadelphia for a $1,000,000 elevated railroad extension to be let next month. Plans are being approved by railroad engineers concerned for a $200,000 viaduct at Petersburg, Va. The Alabama harbor board has approved plans for dock construction at Mobile to cost $500,000. Contracts are about to be let for constructing an $800,000 bridge over the Missouri River at St. Joseph. The construction of a drainage ditch at a cost of $360,000 is under consideration at Wilmar, Minn. It is reported that $350,000 is to be spent for a railroad extension near Portland, Ore., and a franchise has been granted at Marshfield in the same state for 30 miles of additional railroad construction to cost $1,000,000.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK

Spencer, Mass.—Water Comrs. have asked legislature for permission to issue $75,000 bonds to reconstruct water main from Shaw pond to a point where pipe ends at intersection of Main and Spring Sts.

Newport, R. I.—Council passed resolution appropriating $16,000 for sewer system. R. J. Easton, city engr.

Bridgeport, Conn.—The committee on sewers reported to have asked for an appropriation of $1,245,000 for sewers.

Niagara Falls, N. Y.—City considering construction of sewer system to cost $100,000. O. E. Carr, city mgr.

Oyster Bay, L. I., N. Y.—The Sanitary Com. (J. F. Birmingham, chmn.), reported to have completed survey of village looking to constructing sewage disposal plant; estimated to cost $93,375.

Rochester, N. Y.—John F. Skinner, asst. city engr., reported to have completed plans for sewage disposal plant, to be constructed next summer on the river front in Charlotte; cost, about $50,000.

Asbury Park, N. J.—City Comrs. contemplate purchasing a 3,000,000-gal. pump to be used at the water works.

Highstown, N. J.—Borough Council planning for installation of filtration plant, also for extensions of water and sewer systems to all sections in borough limits.

Mendham, N. J.—Borough Council considering extending 23,150 ft. of water mains. Thos. Cromwell reported interested.

Ogdensburg, N. J.—Election will be held March. 13 on the question of issuing $60,000 bonds for waterworks plant. J. B. Rider, engr., 29 Broadway, New York; W. N. Harris, boro. clk.

Altoona, Pa.—In annual report to Frank E. Rooney, comr. streets and pub. improvements, J. W. Shields, city engr., recommends that city spend $285,000 on revision of sewer system in eastern district.

Erie, Pa.—City Council reported to be considering construction of sewage disposal plant. W. D. Kinney, street director.

Johnstown, Pa.—C. P. Collins, sanitary engr., reported to have submitted to city, plans for screening plant for sewage treatment and estimates cost of plant including conduit, railroading siding, etc., $160,600, and outfall sewer $17,600.

Lansdale, Pa.—Borough planning installation of sewer system to cost $225,000, as ordered by State authorities.

Punxsutawney, Pa.—Construction of Municipal waterworks reported contemplated in Borough; cost, about $400,000; W. B. Adams, boro solicitor.

Reading, Pa.—Edmond Ulrich, city engr., will have plans prepared by March 1 for new house sewer system for Dist. 14, Hampden Heights and Princeton Rd. section; sewer to be about 6 miles long; cost $200,000.

Wilkes-Barre, Pa.—Comrs. of Hanover Township reported to have decided to construct sewers in districts including Newtown, lower Christopher and Lee Park; also to construct sewage disposal plant.

Lynchburg, Va.—Council having plans prepared and bonds voted to be used to filter water, strengthen gravity pipe line and perfect emergency supply from James River; cost $350,000. H. L. Shaner, city engr.

Spartanburg, S. C.—Election soon to be held to vote on issuing $40,000 bonds for sewer extensions. John R. Shores, city engr.

Columbia, Ga.—City planning election to vote $60,000 bonds to be used for sewer over Cook's branch in northern part of city.

Madison, Ga.—City plans extending sewer system and waterworks; cost $25,000. M. F. Brooks, mayor.

St. Petersburg, Fla.—Election Feb. 16 on the question of issuing $180,000 bonds to construct sewers and disposal plant.

Jackson, Tenn.—City Comn. to call election to vote $30,000 or $40,000 bonds for extension of sewer system.

Knoxville, Tenn.—Legislature will be asked to pass bill authorizing the City to issue $600,000 bonds to be used for extending mains, sewers, street improvements and erecting schools.

McKee, Ky.—Election to be held in April on the question of issuing $60,000 bonds for waterworks and electric light plant.

Richmond, Ky.—Election to be held in March on the question of issuing $50,000 bonds for waterworks improvements.

Centerburg, O.—City voted bonds for constructing sewage disposal plant. Work probably start early in spring.

East View (Cleveland P. O.), O.—Water bonds for $21,437 and paving bonds for $14,833 will be sold Feb. 9 by Chas. J. Vlk, village clk.

Wooster, O.—Waterworks bonds for $80,000 will be sold Feb. 8 by Fred E. Faber, city aud., for the purpose of furnishing a water supply for the city.

Ankeny, Ia.—City has voted $6,500 bonds for waterworks extensions and $6,500 for sewer system. Lawrence W. Cox, engr., 1316 E. 12th St., Des Moines.

Marshallton, Ia.—City Engineer reported preparing plans for sewer system for 5th ward.

El Dorado, Kan.—City considering $50,000 bond issue to be used for installing filtration plant.

Athens, Tex.—A. B. Axtell, city engr., appointed to prepare plans for sewer system and sewage treatment plant.

Paris, Tex.—City voted $10,000 bonds to be used for sewer construction.

San Benito, Tex.—Rio Grande Valley Ice Assoc., Houston, plans installing water purification plant for this city.

Checotah, Okla.—Election Jan. 20 on the question of issuing $125,000 bonds to improve waterworks.

Kaw City, Okla.—City voted $15,000 bonds to be used for waterworks construction.

New Wilson, Okla.—Town voted $30,000 sewer bonds.

Clarkston, Wash.—City Council plans constructing sewer system to serve entire business district.

Monroe, Wash.—Frank A. Steel, atty., Mutual Life Bldg., Seattle, representing Eastern capital, petitioned City Council for a franchise to construct and operate waterworks and power plant. Water location secured on Lake Fontal, 3 miles from Monroe; plans include pipe line, 1,250,000 gal. capacity per day. Expenditure between $125,000 and $150,000.

Seattle, Wash.—Bd. Pub. Wks. (C. B. Bagley, secy.) approved plans for sewers in E. 54th St.; cost $48,000; sewers in West and North 45th St.; cost $16,688 being considered.

Contract soon to be let for constructing water mains in 4th, South and Chelan Aves.; cost $11,237. City Council also recommends construction of water mains in Shilshole Ave. District at Ballard; cost $25,800. L. B. Youngs, supt. water bd. A. H. Dimock, city engr.

Spokane, Wash.—Plans being prepared by Morton Macartney for construction of downtown intercepting sewer to link with present trunk sewer at Main and Lincoln Sts. and run east to Main and Stevens Sts. South to Sprague Ave. sewer will be 66-in. pipe; cost between $30,000 and $40,000.

Honolulu, T. H.—Election will be held Feb. 21 for waterworks consisting of 36,000 ft. 6-in., 18,000 ft. 8-in., 2400 ft. 12-in. c. i. water pipe, with necessary valves and hydrants; and sewerage, 63,900 ft. 6 to 18-in. pipe; cost $480,000. H. E. Murry, gen. mgr. bd, supervs.

Dundas, Ont.—Plans being prepared by Murray & Lowes, 186 King St. W., Toronto, for trunk sewers; cost $56,000.

Sault Ste. Marie, Ont.—Contracts soon to be let by R. G. Campbell, city clk. for storm sewers; cost $48,0000.

Windsor, Ont.—Essex Border Utilities Comn. (Gordon McGregor, chmn.) will prepare plans for water supply and filtration system; cost $1,900,000.

BIDS DESIRED

Brooklyn, N. Y.—Until Jan. 24, by L. H. Pounds, pres. Brooklyn Boro., Room No. 2, Boro Hall, Brooklyn, for constructing sewers in portions of following streets: 59th St., engrs. estimate, 1,030 lin. ft., from 12 to 24 in. pipe sewer, 280 lin. ft., 6-in. house drain connections together with manholes, sewer basins, etc.; cost $4,067; security $2,000; E. 8th St., Engrs. estimate, 860 lin. ft. from 12 to 24 in. pipe sewer, 230 lin. ft. brick sewer, 309 lin. ft. 6-in. house connection drain, together with manholes, sewer basins, etc.; cost $4,791; security $2,000; E. 9th St., Engrs. estimate, 795 lin. ft., 12-in pipe sewer, 560 lin. ft. 6-in house connection, drains, 6 manholes, 1,000 ft. board measure sheeting and bracing; cost $2,446; security, $1,200; 68th St., Engrs. estimate 586 lin. ft., from 12 to 18 in. pipe sewer, 278 lin. ft. 6-in. house conection drain, 6 manholes, 1 sewer basin and 5 cu. yd. excavation; cost $2,090; security $1,000; Delamere Pl., Engrs. estimate, 752 lin. ft. 12-in. pipe sewer, 115 lin. ft. 6-in. house connection drain, 7 manholes and 200 ft. board measure sheeting and bracing; cost $2,180; security $1,000; Colonial Road, Engrs. estimate, 246 lin. ft. pipe sewer, 258 lin ft. house connection drain, 3 manholes, and excavation; cost $852; security $400. Newport St., Engrs. estimate, 195 lin. ft., 12-in. sewer pipe, 40 lin. ft., house connection drain, 2 manholes, excavation: cost $519; security, $250; also for constructing sewer basin on Prospect Pl., N. E., cor Ralph Ave., Engrs. estimate, $180; security, $90.

Ft. H. G. Wright, N. Y.—Until Feb. 20, for structural and mechanical alterations in pumping plant at Ft. Michie; information from Constructing Quartermaster Ft. H. G. Wright; advertised in this issue.

Mt. Morris, N. Y.—Until Feb. 1 by Municipal Bd. (Geo. L. Bailey, clk.) for sale of about 600 tons 10-in. c. i. pipe, class D, weight 900 lb. to length 12 ft., manufactured by U. S. Cast Iron Pipe & Foundry Co., and also about 18,000 lb. lead in joints in use 2 years; certified check for $500 to accompany bid; bond for 50 per cent on award of contract.

New York, N. Y.—See "Waterworks and Sewerage Systems."

New York, N. Y.—See "Roads and Paving."

Syracuse, N. Y.—See "Excavation, Drainage and Dredging."

Lewistown, Pa.—Reported desired until Jan 23, by Bd. Dir., Lewistown, for extensions to waterworks system involving 4 mi. of 12-in. c. i. pipe; cost, about $60,000; address S. W. Cooper, 7½ Valley St., Lewistown.

Pittsburgh, Pa.—See "Structural Steel."

Coeburn, Va.—Until Feb. 7 for waterworks improvement; bonds for $20,000 have already been voted. Address City Comrs.

Savannah, Ga.—Until Feb. 7, by city (Thomas Halligan, clk.) for constructing storm water sewer; work consists of 1370 ft. reinforced concrete box sewer; advertised in this issue.

Cincinnati, O.—Until Jan. 26 by Chas. F. Hornberger, pub. serv. dir., for pipe-laying contract for 1917; work includes 50,900 lin. ft. from 6 to 12-in. pipe; 1000 cu. yd. rock excavation, 500 cu. yd. additional excavation in changes of grade and alignment; 400 cu. yd. brickwork in valve chambers, piers and other work; 150 cu. yd. concrete in valve chambers, 1000 lbs. steel in valve chambers, pipe protection and other work, 1500 tons unloading, hauling, etc.

Until Jan. 24, by Chas. F. Hornberger, pub. serv. dir., for constructing Paxton Rd. Branch of Duck Creek interceptor to Brotherton Road and Pennsylvania Railroad tracks; cost about $27,660. Frank S. Krug, city engr.

Until Jan. 26, by Chas. F. Hornberger, pub. serv. dir., for c. i. pipe for 1917; 1085 tons from 3 to 12-in. pipe, 100 tons special castings 12 in. diam. and less, 20 tons special castings 16 to 36 in. inclusive, 100 tons miscellaneous castings.

Dayton, O.—Until Jan. 26, by City for constructing 5 sewers; cost $65,000; F. O. Eichelberger, city engr.

Springfield, O.—Reported desired until Jan. 31, for constructing 4 sewers; cost, about $37,564; address C. E. Ashburner, city manager.

Springfield, Ill.—Until Feb. 5, at office Mayor, for 1250 tons c. i. water pipe and special fittings, f.o.b. cars, pumping station switch on C. P. & St. L. Ry., near Springfield; specifications may be obtained from Comr. Pub. Prop., O. F. Davenport, city clk.

Kalamazoo, Mich.—Until Jan. 29, for season's supply of sewer pipe. C. L. Miller, city clk.; advertised in this issue.

Milwaukee, Wis.—Until Feb. 1, by Sewage Comn. (John H. Fowles, secy.) for constructing sewers; work includes one inverted siphon c. i. pipe about 278 ft. long, to be built under Kinnickinnic River, together with shafts and other appurtenances; about 13,548 lin. ft., from 12 to 60-in. concrete sewer and 3362 ft. from 12 to 18-in. terra cotta pipe; also 1375 lin. ft. 54-in. concrete sewer in tunnel, 151 vertical ft. standard manholes; advertised in this issue.

Whitewater, Wis.—Reported desired until Jan. 30, for constructing sewers in several streets; also for paving with reinforced concrete, sheet asphalt and creosoted blocks. Address A. N. Savee, city clk.

Sidney, Ia.—Until Jan. 25, by Rees B. Ellis, co. aud., for following materials in car lots f. o. b. any station in Fremont Co., 2000 lin. ft. corrugated culvert pipe 1800 lin. ft. c. i. pipe, 1000 tons washed and screened gravel; material must conform with standard specifications set up by Iowa State Highway Comn.

West Union, Ia.—Reported desired until Feb. 2 for constructing septic tank, and 19,933 ft. sewer mains; also for laying about 20 sewers; cost about $15,000. Address City Clk.

Winnipeg, Man.—Until Feb. 5, by R. D. Waugh, chmn. comrs. Greater Winnipeg Water Dist., for supplying indicating and recording apparatus for 2 Venturi meters; advertised in this issue.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Providence, R. I.**—See "Foundations, Piers and Dams."

★**St. Cloud, Fla.**—Contract awarded by city to United States Sanitary Septic Tank Co., Memphis, Tenn., at $19,000, to construct tank and sewers.

★**Milwaukee, Wis.**—Following are totals and unit figures of 4 lowest bids opened Jan. 11 by Sewerage Comn. (J. H. Fowles, secy.) for high level intercepting sewer north side of Menomonee River Valley: (a) O'Brien & Jackson Constr. Co., Chicago, Ill., $378,841 (awarded contract); (b) Wisconsin Tunnel Constr. Co., 810 Majestic Bldg., Milwaukee, $417,964; (c) Jas. A. Green & Co., 57 E. Jackson Boulevard, Chicago, Ill., $418,639; (d) John F. Casey Co., Oliver Bldg., Pittsburgh, Pa., $496,246.

	(a)	(b)	(c)	(d)
13,551 lin. ft. 72-in. concrete sewer in tunnel	$26.62	$28.61	$29.30	$34.50
66 lin. ft. 30-in. concrete sewer in open cutting	42.00	20.00	20.00	20.00
511 lin. ft. 12-in. terra cotta pipe sewer open cutting	9.60	15.00	10.00	12.00
660 vert. ft. standard manholes	12.00	25.00	18.00	25.00
150 vert. ft. drop manholes	14.40	30.00	20.00	30.00
19 cast-iron manhole frames and covers	24.00	15.00	15.00	15.00

Higginsville, Mo.—Following are totals and unit figures of 4 lowest bids opened by City Jan. 3 for main sewers, pumping station and disposal plant: (a) O'Neil Constr. Co., Leavenworth, Kan., $22,947 (awarded contract); (b) Edgar Mains, Liberty, Mo., $23,611; (c) Geo. W. Barkwell, Columbia, Mo., $23,739; (d) A. C. Brown, Eldorado, Ill., $24,060.

	(a)	(b)	(c)	(d)
12,260 ft. 8-in. sewer pipe, laid	$0.25	$0.22	$0.20	$0.25
2,300 ft. 10-in. sewer pipe, laid	0.32	0.28	0.30	0.30
2,285 ft. 12-in. sewer pipe, laid	0.38	0.35	0.40	0.375
0 ft. 15-in. sewer pipe, laid	0.60	0.53	0.55	0.50
889 ft. 6-in. c.-i. pipe, laid	1.00	1.00	0.90	1.00
240 ft. 8-in. c.-i. pipe, laid	1.25	1.25	1.40	1.35
96 ft. 10-in. c.-i. pipe, laid	1.75	1.50	1.70	1.50
4,525 yd. trenching, 0-6 ft	0.18	0.20	0.25	0.20
6,190 yd. trenching, 6-8 ft	0.24	0.30	0.35	0.25
2,830 yd. trenching, 8-10 ft	0.32	0.36	0.45	0.30
1,405 yd. trenching, 10-12 ft	0.45	0.50	0.60	0.50
1,040 yd. trenching, 12-14 ft	0.70	0.70	0.65	0.75
450 yd. trenching, 14-16 ft	0.85	0.85	0.90	1.00
340 yd. trenching, 16-20 ft	1.10	1.00	1.10	2.00
200 yd. trenching, over 20 ft	1.50	1.50	2.00	2.50
140 "Y" connections, 6 on 8 in	0.50	0.50	0.70	0.50
45 "Y" connections, 6 on 10 in	0.60	0.60	1.00	0.80
50 "Y" connections, 6 on 12 in	0.70	0.75	1.60	1.00
56 manholes, ea	35.00	40.00	35.00	40.00
0 flush tanks	80.00	65.00	....	70.00
1 lamphole	10.00	10.00	8.00	15.00
8 yd. Portland concrete	12.00	10.00	10.00	9.00
0 yd. rock excavation	4.00	4.00	6.00	4.00
0 ft. lumber in trench	35.00	28.00	40.00	30.00
Pumping Station:				
100 yd. excavation	0.50	0.50	1.00	0.75
34 yd. concrete	10.00	10.00	14.00	10.00
1,300 lb. steel reinforcement	0.05	0.06	0.045	0.05
11 ft. 4-in. c.-i. pipe	0.65	0.85	0.80	0.75
20 ft. 6-in. c.-i. pipe	1.00	1.00	0.90	1.00
8 ft. 8-in. c.-i. pipe	1.40	1.25	1.40	1.25
1,200 special castings	0.06	0.08	0.07	0.06
Disposal Plant:				
1,210 yd. earth excavation	0.50	0.60	0.80	0.75
0 yd. rock excavation	3.00	1.50	6.00	4.00
215 yd. concrete	14.00	10.00	14.00	12.00
450 yd. filter stone	3.00	3.00	2.75	2.50
5 yd. sludge bed sand	2.50	2.00	3.00	2.00
2.5 yd. sludge bed gravel	3.00	5.00	3.00	3.00
11,500 lb. steel reinforcement	0.05	0.06	0.045	0.06
29 ft. 8-in. c.-i. pipe	1.00	1.25	1.40	1.20
700 ft. c.-i. specials	0.05	0.08	0.07	0.05
900 lb. structural steel	0.06	0.08	0.07	0.05
265 ft. 15-in. sewer pipe, laid	0.50	0.85	0.25	1.00
400 ft. 12-in. sewer pipe, laid	0.32	0.75	0.20	0.75
170 ft. 10-in. sewer pipe, laid	0.25	0.35	0.15	0.50
130 ft. 8-in. sewer pipe, laid	0.20	0.25	0.15	0.40
256 ft. 6-in. sewer pipe, laid	0.15	0.18	0.10	0.40
425 ft. 6-in. drain tile	0.12	0.08	0.10	0.30

★**Houston, Tex.**—Following are 4 lowest bids opened by City Jan. 8 for constructing South End sanitary sewer main: (a) Horton & Horton, $133,624 (will be awarded contract); (b) Houston Constr. Co., $138,379; (c) Freund & Quay, $138,837; (d) F. C. Youmans Constr. Co., $140,170; bidders all of Houston.

	(a)	(b)	(c)	(d)
100 cu. yd. extra excavation	$2.00	$1.50	$1.00	$1.50
50 ton-mile hauling	0.30	1.00	0.40	0.40
1,500 man-hour, extra work, labor	0.30	0.40	0.30	0.30
100 team-hour, extra work, teams	0.70	0.70	0.80	0.70
25 per M timber in foundations	30.00	30.00	40.00	30.00
1,300 per M timber ordered left in trenches	16.00	25.00	25.00	23.00
60 cu. yd. extra Class I concrete	18.00	10.00	11.00	16.00
10 cu. yd. extra Class II concrete	18.00	12.00	12.00	17.00
10 cu. yd. extra Class III concrete	18.00	15.00	13.00	17.50
5 cu. yd. extra brick masonry	20.00	20.00	20.00	15.00
1,000 lb. extra casings	0.08	0.05	0.06	0.05
1,000 lb. extra reinforcing steel	0.10	0.10	0.06	0.05
400 cu. yd. road gravel	2.25	3.00	3.00	2.25
100 cu. yd. road shell	2.00	3.00	2.50	2.00
5 standard sanitary sewer manholes, ea	60.00	50.00	60.00	50.00
50 lin. ft. extra depth sanitary sewer manholes	6.00	7.00	7.00	5.00
30 standard drop manholes, ea	65.00	50.00	70.00	65.00
400 lin. ft. extra depth drop manholes	9.50	7.00	7.00	7.50
1,450 lin. ft. deep cut connections, "Stacks"	1.60	1.50	2.50	0.75
150 cu. yd. gravel fill in tunnel	4.00	4.00	5.00	3.00
5 1-jt. of 8-in. pipe in manhole, ea	0.80	0.80	1.00	1.00
5 1-jt. of 10-in. pipe in manhole, ea	1.10	1.00	1.25	1.00
5 1-jt. of 12-in. pipe in manhole, ea	1.40	1.00	1.50	1.00
260 lin. ft. 24-in. vitr. pipe, 12-14 ft. deep	4.00	3.00	2.90	3.00
2,070 lin. ft. 24-in. vitr. pipe, 14-16 ft. deep	4.55	3.50	3.35	3.50
30 lin. ft. 24-in. vitr. pipe, 14-16 ft. deep, in tunnel	6.80	4.00	5.00	6.00
2,100 lin. ft. 24-in. vitr. pipe, 16-18 ft. deep, in tunnel	6.30	3.30	4.25	4.25
3,000 lin. ft. 24-in. vitr. pipe, 18-20 ft. deep, in tunnel	6.75	4.00	4.50	5.50
2,500 lin. ft. 24-in. vitr. pipe, 20-22 ft. deep, in tunnel	6.90	4.75	6.00	6.75
1,000 lin. ft. 24-in. vitr. pipe, 22-24 ft. deep, in tunnel	7.15	10.00	7.00	8.25
3,400 lin. ft. 24-in. vitr. pipe, 24-26 ft. deep, in tunnel	7.45	11.00	10.00	9.75
600 lin. ft. 24-in. vitr. pipe, 26-28 ft. deep, in tunnel	7.80	12.00	9.00	11.25

Hamilton, O.—Lowest bid opened by City Bd. of Control for Lindenwald sewer was that of John L. Walker Co., 310 High St., $52,865; other bids, L. A. Dillion, $57,348; Chas. Smith Co., Dayton, $56,768. Engineer's estimate $53,187. Frank Weaver, city engr.

Rock Island, Ill.—Lowest bid opened by city Jan. 12 was that of P. J. Trenkenschuh, Rock Island, at $16,844, for sewer system and septic tanks.

Marshfield, Wis.—Contract awarded by city, Jan. 5, to Circular Concrete Co., 100 Corn Exchange Bldg., Minneapolis, Minn., for two disposal plants at $21,650. Bids for well and pumps not accepted. Well to be built by above company for cost plus 10 per cent. R. C. Hastings, chmn. bd. pub. wks.

★**Dakota City, Ia.**—Contract awarded Jan. 9 by town to Des Moines Bridge & Iron Wks., Des Moines, for constructing tank and tower at $4,485 and distribution system at $3,412; pumping machinery awarded to E. C. Archibald, Council Bluffs, at $1,233. Bids on municipal building were rejected, owing to lack of funds. (C. F. Lowder, town clk.)

★**Lake Mills, Ia.**—Contract awarded by city to Peterson & Iverson, local, for waterworks, at $25,000. T. J. Severson, city clk.

★**Marlow, Okla.**—Following are 4 lowest bids opened by City Jan. 10 for constructing a system of main and sub-main sewers Inter Mountain Bridge & Constr. Co., Tecumseh, Neb., $23,367 (awarded contract); W. A. Smidley, Oklahoma City, $24,282; Municipal Excavator Co., Oklahoma City, $24,593; N. S. Sherman Machine & Iron Wks., Oklahoma City, $25,399. E. V. Roper, city clk.

Portland, Ore.—A. L. Barbur, city auditor, reports bids opened for second time, Jan. 3, for construction of Tanner Creek sewer as follows: Harry Howard, Portland, $277,396 (bid thrown out as being irregular); Giebisch & Joplin, Portland, $308,771; this figure is being considered.

★**San Diego, Cal.**—Contract awarded by city to A. C. Hose, 3120 Herman Ave., at $31,500, for sewers in University Heights.

★**Pocatello, Idaho.**—Following are 4 lowest bids opened Dec. 29 by city for constructing main flow line for water department from Gibson Jack Creek to Mink Creek: Mitchell Co., Seattle, Wash., $42,813 (awarded contract); J. J. Carroll, Boise, $46,713; S. A. Forter, American Falls, $49,537; Perham & Stanford, St. Anthony, $50,989.

★**Hamilton, Ont.**—Contract awarded by city to Arnot Constr. Co., Berkeley St., Toronto, at $14,800, for sewers in Fairmount Ave.

STRUCTURAL STEEL WORK

PROPOSED WORK

Auburn, N. Y.—Mark I. Koon, mayor, recommends constructing new bridges at State and North Division Sts.

New York, N. Y.—Preliminary plans have been completed by Edw. A. Byrne, ch. engr., dept. bridges, for constructing bridge, 3 miles long, with separate sections for elevated trains, trolley cars, pedestrians and general traffic, over Harlem and East Rivers, from 125th St. and 1st Ave., to Long Island City, extending east to Randall's Island, south to Ward's Island, and then southeasterly to Long Island City, terminating near New York Connecting Ry. structure; estimated cost $10,000,00 to $12,000,000. F. J. H. Kracke, comr., Dept. Plant & Structures, Municipal Bldg.

Watertown, N. Y.—Data concerning cost of eliminating Court St. grade crossing by constructing bridge will shortly be presented to Pub. Serv. Comn. by E. W. Sayles, city engr.

Camden, N. J.—See "Roads and Paving."

Jersey City, N. J.—John Magner, co. superv., recommends replacing present structure over Leghorn Creek on County road with reinforced concrete and steel bridge; also, repaving 14th St. viaduct from Hoboken to Jersey City.

Johnstown, Pa.—Tentative plans for constructing proposed bridge connecting Napoleon and Carr Sts. have been presented to City Planning Comn. (Victor A. Rigaumont, resident city planner), for their approval.

Philadelphia, Pa.—Estimated cost for constructing proposed bridges in city during 1917 placed at $1,000,000. Chester E. Albright, ch. survey bureau.

Norfolk, Va.—City Council has appropriated $200,000 toward constructing proposed RR. bridge over James River so that Newport News and Washington Short Line Ry. (Frank S. Gannon, pres., 2 Rector St., New York City), will enter city.

Pineville, W. Va.—Plans will probably be ready about Feb. 15 and bids asked about March 15 for constructing 14 bridges in Wyoming Co., at estimated cost of $75,000. Blake Taylor, ch. rd. engr., Dept. Pub. Rds., Pineville, W. Va.

Asheville, N. C.—County considering reconstruction of Long Shoals, Smith's, Pearson's and Alexander bridges with $50,000 fund now in possession of Co. Comrs.

Newton, N. C.—Bd. Comrs. have instructed State Highway Comn, Raleigh, to proceed with construction of foundations for bridge at Horseford between Catawba and Caldwell Counties; also one at Moores between this (Catawba) and Iredell counties, for which bids will be asked separately on concrete and steel work.

Gaffney, S. C.—County considering repairing bridges damaged by floods last summer, and is asking state legislature to grant authority to issue $75,000 bonds for this work.

Nashville, Tenn.—City considering issuing $150,000 bonds for constructing viaduct between east and northeast Nashville, also $85,000 bonds for improving and extending Church St. viaduct.

Birmingham, Ala.—Following roads will share expense with city—city will pay 20 per cent of cost—for constructing proposed viaduct at 21st St., which will probably be constructed under supervision of Southern Ry. (B. Herman, ch. engr., Washington, D. C.), to cost between $150,000 and $175,000: Southern Ry., Alabama Great Southern RR. (C. Dougherty, ch. engr., Cincinnati, Ohio), Seaboard Air Line RR. (W. D. Faucette, ch. engr., Norfolk, Va.), and Louisville & Nashville RR. (W. H. Courtenay, ch. engr., Louisville, Ky.)

Louisville, Ky.—Plans of War Dept., Washington, D. C., for reconstructing Ohio Falls bridge, at additional estimated cost of $400,000 to Louisville & Nashville RR. (W. H. Courtenay, ch. engr., Louisville, Ky.), that Ohio River navigation, here, might be improved, were upheld by Supreme Court.

Mason, Ky.—Cincinnati Southern RR. (C. Dougherty, ch. engr., Cincinnati, O.), intends eliminating 2 grade crossings on Covington and Lexington Pikes, near here, on Dixie Highway route.

Lowellville, O.—Mahoning & Shenango Ry. & Lt. Co. (R. T. Stevens, pres., Youngstown, O.) has had bill introduced in Congress for permission to construct bridge, dam and approaches over Mahoning River, this place.

Sterling, Ill.—City Council has petitioned Whiteside Co. Comrs., Morrison, Ill., to submit $130,000 bond issue to voters for constructing proposed bridge over Rock River between here and Rock Falls.

Little Falls, Minn.—Bridge bonds for $70,000 will be sold Feb. 6 by Morrison Co. (B. Y. McNairy, aud.).

San Jose, Cal.—Plans about completed by Dept. Pub. Wks. for constructing $25,000 bridge over Coyote Creek on Santa Clart St. at 17th St. Thomas H. Reed, city mgr.

Victoria, B. C.—Plans being prepared by C. H. Rust, engr., Victoria, for constructing $50,000 steel bridge and approaches at Rock Bay.

BIDS DESIRED

White Plains, N. Y.—Reported desired until Feb. 14, by Bd. Superv., Westchester Co. (E. P. Barrett, chmn.), for constructing reinforced concrete bridge with granite facing across Bronx River, between Yonkers and Tuckahoe; cost $17,000. Chas. McDonald, Jr., engr., Tarrytown.

Pittsburgh, Pa.—Until Jan. 23, at office City Controller, Municipal Hall, for constructing portals for Manchester (formerly Northside Point) Bridge; cost about $55,000; also for constructing sewer in portions of Filbert, Grant, Butler and other streets; bond for 50 per cent of estimated cost to accompany each bid.

Covington, Ga.—Reported desired until Feb. 6, by I. W. Meador, co. comr., for constructing bridge over Yellow River, to be 100 ft. steel span, one approach 83 ft. 4 in. long, another 100 ft. long; separate bids for (a) furnishing material and erecting bridge; (b) furnishing steel for bridge f. o. b. Almon, Ga., (c) furnish all concrete material and do concrete work, (d) furnish all concrete material and do all concrete work and erect steel bridge completed.

East Dubuque, Ill.—Until Feb. 13, by John Ellwanger, secy. Dubuque Bridge Co., for improving east approach of Dubuque bridge; work includes 1550 sq. yd. brick paving, 783 lin. ft., reinforced concrete sidewalk, 783 lin ft. reinforced retaining curb; certified check for $1,000 to accompany bid; plans may be obtained from Tschirgi & Sons, engrs., 712 American Trust Bldg., Cedar Rapids, Ia.

Baker, Ore.—Reported desired until Jan. 30, by A. B. Stern, city clk., for constructing 60-ft. truss bridge at Center St.

Stockton, Cal.—Reported desired until Feb. 8 by E. D. Graham, co. clk., for constructing two 20-ft. culverts, one 40-ft. trestle bridge, one 60-ft. truss bridge, and one 120-ft. bridge, comprising 60-ft. trestle and 60-ft. truss, all on county road No. 464.

Cristobal, C. Z.—Until Feb. 12, by Earl I. Brown, gen. purch. officer Panama Canal, Washington, D. C., for structural steel and miscellaneous material for Pier No. 6; advertised in this issue.

PRICES AND LETTINGS

★*Indicates award of contract.*

Albany, N. Y.—W. W. Wotherspoon, state supt. of pub. wks., in annual report recommends reconstructing at once at least 25 canal bridges at average cost of $18,000.

★**Poughkeepsie, N. Y.**—Contract awarded by New York, New Haven & Hartford RR. (Edw. Gagel, ch. engr. New Haven, Conn.) to Strobel Steel Constr. Co., 53 W. Jackson St., Chicago, Ill., for reconstructing Poughkeepsie bridge over Hudson River.

Huntington, W. Va.—County rejected all bids, varying from $58,000 to $80,000, for constructing steel superstructure to Four Pole bridge near here, as being in excess of estimate. J. M. Oliver, Jr., co. engr.

Pittsfield, Ill.—All bids opened Dec. 28 county for constructing steel bridge, estimated cost $10,330, between Hardin and Spring Creek Twps., rejected.

★**York, Neb.**—Contract awarded by county (bids opened Jan. 9) to Western Bridge & Constr. Co., Omaha, Neb., for constructing all concrete and steel bridges in county during this year. Annie H. Beck, co. clk.

★**St. Louis, Mo.**—Contract awarded by city to Louis Rich, Arcade Bldg., St. Louis, Mo., at $60,000, for reconstructing Missouri viaduct from Relay depot to 10th St.

Everett, Wash.—Lowest bid received by county for constructing steel bridge over Snohomish River, near here, was from H. Price, Everett, Wash., at $32,242. W. C. Bickford, co. engr.

★**Kennewick, Wash.**—Contract awarded by County (J. C. Syfford, aud., Prosser, Wash.) to Coast Bridge Co., Portland, Ore., at $12,000, for constructing 2 Howe truss-span bridges, 167 ft. long and 20 ft. wide, over Yakima River between here and Richland.

Brooklyn, N. Y.—Total and unit bids opened Jan. 10 by Pub. Serv. Comn. (James B. Walker, secy., 120 Bway., New York City) for (I) supplying structural steel, (II) construction, including furnishing structural steel, (III) constructing, excluding furnishing structural steel), for 2-track elevated RR. (Route 31, length 12,710 lin. ft.), part of Eastern Parkway Rapid Transit RR., 85 Clinton St., Brooklyn, N. Y., as follows:

I—(a) American Bridge Co., Inc., 30 Church St., $1,431,755; (b) McClintic Marshall Co., Park Row Bldg., $1,498,055; (c) Bethlehem Steel Bridge Corp, 111 Bway., $1,638,020.

II—(a) Oscar Daniels Co., Woolworth Bldg., $1,775,508; (b) Kaufman & Garcey, 51 Chambers St., $1,811,604; (c) Snare & Triest Co., Woolworth Bldg., $1,859,710.

III—(a) W. G. Cooper, 220 Bway., $257,164; (b) Snare & Triest Co., $273,400; (c) P. J. Carlin Constr. Co., 1123 Bway., $277,597; (d) Jobson-Gifford Co., 30 E. 42d St., $298,357. All bidders of New York City.

I	(a)	(b)	(c)
600 tons steel beams and shapes, furnished and delivered	$84.00	$85.40	$96.40
15,100 tons riveted steel, furnished and delivered	91.00	95.40	101.80
5,000 tons storage of struc. steel for an initial period not exceeding 6 mths	0.55	0.25	7.50
500 tons storage of structural steel beyond an initial period of 6 mths.	0.05	0.05	1.00
500 tons additional price for delivery of structural steel out of stock	9.00	10.00	10.00

II	(a)	(b)	(c)
19,100 cu. yd. column excav	$1.80	$2.25	$1.80
6,000 cu. yd. concrete masonry	8.60	8.90	7.80
10 cu. yd. brick masonry	12.00	15.00	18.00
60 cu. yd. removal of old masonry	8.00	20.00	13.00
2,000 lin. ft. timber piles	0.10	0.30	0.45
2 M ft. b. m. timber foundations	50.00	80.00	70.00
15,100 tons riveted steel	105 50	107.30	111.00
600 tons steel beams and shapes	98.50	95.00	106.00
5 tons steel rods and bars	110.00	120.00	90.00
5 tons miscellaneous iron castings	72.00	70.00	90.00
1,850 sq. yd. (h) street surface restored	1.00	2.50	2.30
1,600 lin. ft. (o) old curb restored	0.25	0.50	0.50
3,900 lin. ft. (c) electric (overhead trolley) R. R. lin. ft. single track	1.00	1.40	1.40
Lump sum maintenance and support of L. I. R. R. and N. Y. Consolidated R. R.	....	....	....
100 lin. ft. 6-in. water pipe	1.00	1.00	0.80
100 lin. ft. 8-in. water pipe	1.00	1.00	1.00
50 service connections for water pipes (each)	8.00	10.00	15.00
100 lin. ft. 6-in. gas pipe	1.00	1.00	0.60
100 lin. ft. 12-in. gas pipe	1.50	1.00	1.00
45 service connections for gas pipes (each)	12.00	10.00	10,00
2 tons new c. i. hub and spigot straight pipe	50.00	60.00	60.00
5 tons new c. i. hub and spigot special pipe	98.00	80.00	75.00
5 electric ground connections (each)	90.00	50.00	50.00
5,400 sq. ft. (m) 6-in. reinforced concr. slab, incl. rods	0.60	0.60	0.45
17,000 sq. ft. (e) concrete track floors	0.85	0.90	0.65
175 (g) ferrules (each)	3.60	3.00	2.00
1,000 sq. ft. (c) special wire forms	0.03	0.10	0.07
4,775 lin. ft. (a) ¾-in. electric conduit	0.24	0.25	0.16
130 lin. ft. (b) 1-in. electric conduit	0.40	0.30	0.20
275 c. i. outlet boxes (each)	0.80	0.75	0.60
110 c. i. combination outlet boxes (each)	2.00	3.00	2.50

III	(a)	(b)	(c)	(d)
19,100 cu. yd. column excavation	$1.65	$1.80	$1.90	$2.50
6,000 cu. yd. concrete masonry	7.00	7.90	7.00	10.00
10 cu. yd. brick	14.00	18.00	20.00	25.00
60 cu. yd. removal of old masonry	10.00	13.00	15.00	15.00
2,000 lin. ft. timber piles	0.10	0.45	0.50	0.10
2 M ft. b. m. timber foundations	49.00	70.00	70.00	50.00
15,700 tons erecting and painting structural steel	9.45	9.70	10.00	9.75
5 tons steel rods and bars	90.00	90.00	100.00	100.00
5 tons miscellaneous iron castings	80.00	90.00	90.00	80.00
1,850 sq. ft. (h) street surface restored	2.50	2.30	2.00	2.50
1,600 lin. ft. (o) old curb restored	0.30	0.50	0.30	1.00
3,900 lin. ft. (c) electric (overhead trolley) R. R. lin. ft. single track	0.99	1.40	0.75	1.25
Lump sum maintenance and support of L. I. R. R. and N. Y. Consolidated R. R.	....	....	....	....
100 lin. ft. 6-in. water pipe	1.00	0.80	0.70	0.50
100 lin. ft. 8-in. water pipe	1.50	1.00	0.80	0.50
50 service connections for water pipe (each)	9.00	15.00	20.00	1.00
100 lin. ft. 6-in. gas pipe	1.00	0.60	0.60	0.50
100 lin. ft. 12-in. gas pipe	2.00	1.00	0.80	0.50
45 service connections for gas pipes (each)	9.00	10.00	12.00	1.00
2 tons new c. i. hub and spigot straight pipe	80.00	60.00	90.00	50.00
5 tons new c. i. hub and spigot special pipe	90.00	75.00	110.00	100.00
5 electric ground connections (each)	40.00	50.00	40.00	50.00
5,400 sq. ft. (m) 6-in. reinforced concrete slab, including rods	0.59	0.45	0.65	0.70
17,000 sq. ft. (e) concrete track floors	0.89	0.65	1.25	0.80
175 (g) ferrules (each)	2.00	2.00	4.00	3.00
1,000 sq. ft. (c) special wire forms	0.15	0.07	0.20	0.05
4,775 lin. ft. (a) ¾-in. electric conduit	0.20	0.16	0.20	0.20
130 lin. ft. (b) 1-in. electric conduit	0.30	0.20	0.25	0.25
275 c. i. outlet boxes (each)	1.00	0.60	0.60	0.70
110 c. i. combination outlet boxes (each)	3.00	2.50	4.00	2.75

Spokane, Wash.—Following bids were opened Jan. 5 by County for constructing 200-ft. span steel bridge over Spokane River at Nine Mile: C. L. Graves, Spokane, Wash., $13,630; if County does erecting will sell it a span for $6,600; Olsen & Johnson Co., Inc., Missoula, Wash., $11,589, providing steel in present bridge being torn down can be used; Illinois Steel Bridge Co., will sell County a span for $5,800 delivered if county does erecting.

REINFORCED CONCRETE

PROPOSED WORK

Boston, Mass.—City intends reconstructing Broadway extension bridge; estimated cost $35,000.

Camden, N. J.—Bd. Freeholders have submitted plans for constructing proposed concrete bridge over Newton Creek to War Dept. for its approval.

Bethlehem, Pa.—Pub. Serv. Comn., Harrisburg, Pa., has appointed com. consisting of Archibald Johnston, chmn., to have charge of preparation of detailed plans and to receive contributions and disburse same for constructing proposed $960,000 reinforced concrete bridge over Lehigh River, between Bethlehem and South Bethlehem for which plans are being prepared by R. E. Neymeyer, engr., 1416 E. Fourth St., South Bethlehem, Pa., and Sam. T. Wagner, ch. engr., Pennsylvania & Reading RR., Reading Terminal, Philadelphia, Pa. Bridge will be jointly constructed by towns of Bethlehem and South Bethlehem (Alex. C. Graham and Sam. Krause respectively in charge), counties of Lehigh and Northampton (Oscar L. Henninger, Allentown, Pa., and Elmer P. Peifer, Easton, Pa., comrs. respectively in charge), Lehigh Coal & Navigation Co., 143 Liberty St., New York City, and Pennsylvania RR. (Alex. C. Shand, ch. engr., Philadelphia, Pa.), Central RR. of New Jersey (A. E. Owen, ch. engr., 143 Liberty St., New York City), and Lehigh Valley RR. (E. B. Ashby, ch. engr., 143 Liberty St., New York City).

Kutztown, Pa.—Included in county's proposed bridge construction plans for 1917 is a reinforced concrete bridge, 76 ft. long and 60 ft. wide, with sidewalks on both sides, over Saucony Creek on Haeffner St., this borough. Address Co. Clk., Reading, Pa.

Mont Clare, Pa.—All bids were rejected by Co. Cmnrs., Norristown, for constructing proposed concrete bridge over Schuylkill canal, adjacent to eastern end of new Phoenix bridge, as bids were over $17,000 and considerably in excess of estimated cost.

Philadelphia, Pa.—See "Structural Steel."

Scranton, Pa.—Preliminary plans have been completed by Wm. Shunk, city engr., for constructing proposed concrete bridge, 454 ft. long, with 30-ft. roadway and 7 ft. for foot traffic, and with clearance of 130 ft. over bed of brook and tracks of Delaware, Lackawanna & Western RR.'s (G. J. Ray, ch. engr., Hoboken, N. J.), and Laurel Line (P. J. Murphy, supt., Terminal Station, Scranton, Pa.) tracks; estimated cost, $85,000.

Petersburg, Va.—Details and plans for constructing proposed $202,000 Appomattox concrete viaduct being checked by J. E. Crawford, ch. engr., Roanoke, Va., of Norfolk & Western, and J. E. Willoughby, ch. engr., Wilmington, N. C., of Atlantic Coast Line RRs. with R. D. Budd, city engr.; city's share being $102,000, RR.'s $100,000.

Fairmont, W. Va.—City intends constructing 402 ft. long, reinforced concrete bridge over Monongahela River, for which bonds have been voted. A. Bowen, mayor.

Ft. Wayne, Ind.—County has rejected all bids for constructing reinforced concrete bridge over St. Joseph River; new bids will be asked.

Flint, Mich.—Estimated cost of proposed concrete arch bridge with 2 spans over Flint River at Beach St., placed at $60,000, $7,000 of which is for paving roadway. E. C. Shoecraft, city engr.

Cedar Rapids, Ia.—Reported Merchants National Bank Co., W. S. Hamilton, secy., and E. E. Pinney, member of building commission plan erecting 12-story and basement, 140 x 60 ft. stone and reinforced concrete, fireproof bank, office and store building, to cost $250,000.

Minneapolis, Minn.—See "Buildings."

Owatonna, Minn.—Plans being prepared by J. H. A. Brahtz, engr., 312 Commercial Bldg., St. Paul, for constructing $30,000 reinforced concrete bridge over Straight River on Bridge St.

Galveston, Tex.—County will hold election Feb. 6 to vote $600,000 reconstruction causeway bonds, county's share of cost for this proposed concrete viaduct improvement.

Ponca City, Okla.—Cost to construct proposed concrete bridge, 300 ft. long, 18 ft. wide, over Salt Fork River at White Eagle Indian Reservation, estimated at $45,000, will be borne equally by Kay and Noble Counties (Newkirk and Perry, respective co. seats) and federal government.

Spokane, Wash.—Plans were prepared by F. P. Rooney, Spokane, for erecting 3-story and basement, steel and concrete, fireproof warehouse on Pacific Ave., between Bernard and McClellan Sts., for Security Storage Co.; cost $90,000.

Portland, Ore.—Plans being prepared by Emil Schacht, Commonwealth Bldg., Portland, for erecting 3-story and basement, 100 x 100 ft. reinforced concrete lodge building for United Artisans on corner of Third and Columbia Sts.; cost about $60,000.

San Francisco, Cal.—Reported Frye & Co., Seattle, will erect large packing and provision house here, 5-story brick and concrete construction, and cost $75,000; Chas. H. Frye, Palace Hotel, San Francisco.

Santa Barbara, Cal.—Reported C. H. McIsaacs and others intend erecting 5-story, 150-room, reinforced concrete and steel hotel building at Figueroa and Chapala Sts., to cost about $300,000.

BIDS DESIRED

Baltimore, Md.—Until Jan. 30 by State Road Comn. (Frank A. Zouck, chmn.) for constructing bridge over Sassafrass River between Georgetown and Fredericktown, and about 780 ft. long; advertised in this issue.

Lewisburg, W. Va.—Until Feb. 6 by Co. Court (John S. Crawford, clk.) for constructing concrete bridge across Little Sulphur Branch on James River; advertised in this issue.

Pontiac, Ill.—Reported desired until Feb. 1, for constructing three 90-ft. reinforced spans, 42 ft. wide, over Vermillion River, Livingston Co.; cost about $30,000. R. W. Osborne, supt. highways.

Kendrick, Idaho.—Potlatch Consolidated Electric Co., Kendrick, has been granted franchise to erect and maintain electric transmission lines on highways of county.

PRICES AND LETTINGS

★*Indicates award of contract.*

Boston, Mass.—Contract awarded by Quincy Market Cold Storage & Warehouse Co., Boston, to Turner Construction Co., 11 Broadway, New York, for erecting on T wharf property in Boston 11-story reinforced concrete cold storage warehouse, 152 x 140 ft.; cost about $1,000,000. J. R. Worchester & Co., Archts.

★**New York, N. Y.**—Contract awarded Turner Construction Co., 11 B'way for erecting 11-story and basement, 330 x 200-ft. cold storage plant at 16th and 17th Sts., 10th Ave. and Marginal St. for Merchants' Refrigerating Co. Building will be of reinforced concrete and cost $2,000,000. Work on foundation has begun.

★**Trenton, N. J.**—Contract awarded by Pennsylvania RR. (Alex. C. Shand, ch. engr., Broad St., Philadelphia, Pa.), to James McGraw Co., Commercial Trust Bldg., Philadelphia, Pa., for 3 concrete bridges over Delaware and Raritan canal; estimated cost, $150,000; bids opened Dec. 27.

★**Concordia, Kan.**—Contract awarded by County (bids opened Jan. 2) to Western Bridge Co., Harrisonville, Mo., at $13,974, for constructing 9 reinforced concrete bridges. Geo. C. Guilbert, co. clk.

Los Angeles, Cal.—Following are lowest bids opened Jan. 8 by Board Supervisors for erecting five 1-story tuberculosis wards, 2-story dining hall, of concrete, brick and steel, connecting corridors, etc., at County Hospital, Workman St. and Mission Road: General contract, William C. Crowell, 440 Chamber of Commerce Bldg., Pasadena, at $169,960; F. O. Engstrum Co., 5th and Seaton Sts., Los Angeles, $182,769; J. P. Atkinson, Story Bldg., Los Angeles, $186,700; Leonardt & Peck, H. W. Hellman Bldg., Los Angeles, $188,000. J. Schulz, engr., court house, Los Angeles.

ROADS AND PAVING

PROPOSED WORK

Rhode Island.—State Bd. Pub. Roads (Irving W. Patterson, ch. engr.), Providence, R. I., has asked State Legislature for $700,000 for road work during 1917.

West Warwick, R. I.—General Assembly has been asked to appropriate $20,000, half of estimated cost, to reconstruct road with bituminous macadam, 18 ft. wide and 2½ miles long, from Phoenix road on dividing line between Coventry and this town, to Cowsett road in this town, work to be under joint supervision of State Bd. Pub. Roads and Town Council, Alberic A. Archambault, senator, West Warwick.

South Manchester, Conn.—Contracts will be awarded by city about March 1 for constructing concrete walks and granite curbs; estimated cost $23,500. J. Frank Bowen, city engr.

Huntington, L. I., N. Y.—State Highway Dept., E. H. Waite, div. supt., Poughkeepsie, N. Y., intends awarding contract this summer for resurfacing 3 miles of New York Ave. in this town, with concrete, 16 ft. wide; if road is made 20 ft. wide town will pay extra cost, amounting to $3,000 per mile, or total of $36,000 for town and $20,000 for State to pay. Ft. Salonga-Cold Spring Harbor road will also be improved this year. Edgar L. Lewis, superv.

Rome, N. Y.—City Council considering paving, probably with concrete, South George, Depeyster, South James and 7 other streets, also widening portion of East Dominick St.

Atlantic City, N. J.—Expense of paving Mediterranean Ave. its entire length with asphalt or some other hard-surfaced material will be borne jointly by Pennsylvania R. R. (Alex. C. Shand, ch. engr., Broad St., Philadelphia, Pa.) and city. John H. Hackney, city engr.

Audubon, N. J.—Estimated cost of street improvements contemplated by boro. placed in excess of $12,000.

Camden, N. J.—City considering paving highways leading to main roads out of city and paving East Camden streets, also paving Morton St. with sheet asphalt on 6-in. concrete foundation and Pavonia St. with 8-in. concrete, and doubling capacity of municipal asphalt plant. W. D. Brown, city clk.

Bd. Freeholders have appropriated $66,800 for road and $36,300 for bridge work during 1917.

Cape May C. H., N. J.—Bd. Freeholders have appropriated $50,000 for road maintenance during 1917. Henry S. Rutherford, dir.

Newark, N. J.—Fred. A. Reimer, co. engr., has recommended 35 miles of county roads be improved at estimated cost of $1,400,000; some of roads are: Bloomfield Ave. in Verona and Caldwell; Grove St. in East Orange, Newark and Irvington; Central Ave. in Orange and West Orange and 11 others.

Pennington, N. J.—Boro. is considering improving several streets. Henry L. Lanning, boro. clk.

Pennsville, N. J.—Surveys being made by H. B. Keasby, co. engr., Salem, for paving Pennsville-Salem road, about 5 miles; material undecided.

South Orange, N. J.—Estimated cost to macadamize Grove and Hobart Gap Sts. and South Orange, Fairview and Roseland Aves. placed at $65,000. I. T. Redfern, engr., 11 South Orange Ave.

Trenton, N. J.—Surveys being made by Theo. Tobish, co. engr., for paving with bituminous concrete sect. 2 of River road.

Abingdon, Pa.—Town Commrs. will spend $25,000 to improve street and highways in town.

Pittsburgh, Pa.—Dept. Pub. Wks. has authorized the grading, paving and curbing portion of N. Lexington St. at estimated cost of $26,000.

Waynesburg, Pa.—Surveys being made by state highway engineers for improving Waynesburg-Rice Landing road, 3½ miles, from intersection of this road with Waynesburg-Mt. Morris brick road in Morrisville. State Highway Dept., Harrisburg, Pa., also considering improvement of sect. of road west of Rogersville which Co. Comrs. voted to improve year ago. W. D. Cotterrel, chmn. co. good roads com. T. B. Dinsmore, co. engr.

Maryland.—State Roads Comn., Garrett Bldg., Baltimore, Md., intends constructing next summer, 7 miles of state highway between Emmittsburg in Federick Co., and Bridgeport in Carroll Co., and extending Federick-Jefferson Road 1½ miles from Knoxville to Washington Co. line.

Norfolk, Va.—City has appropriated $130,000 to repave portion of Church St. with smooth-surfacing material. Virginia Ry. & Power Co. (M. Ely, ch. engr., 7th and Franklin Sts., Richmond, Va.) wants to repave with Belgian blocks portion of this street, on which it has tracks.

Fayetteville, W. Va.—Contracts will soon be let by county for constructing 3 sects. of 17 miles of road between here and Raleigh County line, along Old Giles, Fayette and Kanawha turnpikes; sects. being from Raleigh County line to Glen Jean, Glen Jean to Oak Hill, Oak Hill to here.

Keyser, W. Va.—County will hold election Feb. 10 to vote $140,000 good road bonds. Principal road to be improved is one from Ridgeley to Short Gap and then to Alaska.

Richmond, Va.—Estimates of road work only, of C. E. Bolling, city engr., for extending, as parkway, Chamberlayne Ave., by 2 routes, south, are: Route 1, from Graham road to Calhoun St., 1st sect., 100 ft. wide, $118,176; 2d sect., 80 ft. wide, $26,342. Route 2, from Graham road to Brook Ave. and Baker and Munford Sts., $198,024, which includes 10 per cent for contingency allowances.

Asheville, N. C.—City Comrs. considering paving of Gertrude, Evelyn and Catherine, Edwin and Lawrence Places.

Petition being circulated in town of West Asheville asking legislature to authorize issue of $170,000 street improvement bonds.

Concord, N. C.—Bd. Alderman voted to pave portions of Buffalo, Chestnut and North Church Sts.

Smithfield, N. C.—Town intends paving about 7500 sq. yd. with concrete or bitulithic. J. Stevens, street comr.

Wilders township voted at recent election $25,000 road bonds. E. P. Lore, co. engr.

Barnesville, Ga.—City will hold election Feb. 3, to vote $15,000 bonds for paving streets within fire limits and sidewalks in other sects. B. M. Turner, mayor.

Charleston, S. C.—Plans being prepared by James H. Dingle, city engr., to construct boule. drive and sea wall from E. Battery to west end of Tradd St.; estimated cost between $50,000 and $70,000, which will be partly paid for by private gift of $35,000. Lawrence M. Pinckney, chmn., ways & means comn.

Quitman, Ga.—Surveys being made by S. B. Slack of dept. of engrs., University of Georgia, of road from here to Lowndes Co. line, that federal aid may be obtained to construct same; this road when completed will be part of highway between Brunswick, Savannah and Bainbridge.

Columbia, S. C.—City Council has recommended $300,000 bond issue, $260,000 to be used for street improvements.

Sumter, S. C.—City voted at recent election $75,000 paving bonds.

Macon, Ga.—Election will shortly be called in county to authorize appropriation of $1,000,000 for county road work, schools and new court house. Dr. J. H. Head, chmn., bd. co. comrs.

Thomasville, Ga.—City considering paving portions of E. Jefferson, N. and S. Broad and two other streets; also paving and laying sidewalks, curbs and gutters on N. Dawson St., expense to be borne one-third by city and two-thirds by abutting property owners.

Fellsmere, Fla.—Contracts will soon be awarded by city for improving number of streets with concrete, brick and marl; estimated total cost, $100,000, for which $50,000 bonds were sold Dec. 30; also for constructing proposed bridges over drainage ditches. Wm. L. Drier, comr.

Montgomery, Ala.—Alabama's share of federal road appropriation for 1917 is $100,000; supervision for spending same will be superintended by J. T. Bullen, ch., Federal Pub. Roads & Rural Engrs., Montgomery, Ala., for dists. composed of Alabama, Mississippi, Tennessee, South Carolina.

Hattiesburg, Miss.—Election will be held Jan. 30 to vote $100,000 good road bonds for 2 of county's 5 road dists. Address Clk. Bd. Supervisors.

Hazlehurst, Miss.—Road and bridge bonds for $50,000 will be sold Feb. 5, by Co. Bd. Supervs.

Dover, Tenn.—County will vote March 1 to issue $200,000 road construction bonds.

Knoxville, Tenn.—See "Waterworks and Sewer Systems."

Nashville, Tenn.—City considering issuing $50,000 bonds for proposed widening of portion of Eighth Ave.

Barbourville, Ky.—County intends starting work in March with $200,000 bond issue.

Jamestown, Ky.—County Fiscal Court has appropriated $40,000 for road work during 1917. Address Judge Fiscal Court.

Louisville, Ky.—Contracts will be awarded at Feb. meeting of Co. Comrs. for improving 2½ miles of Fred Schull Road in Union township.

Paducah, Ky.—Plans being prepared by R. H. Young, Court House Bldg., Paducah, Ky., for constructing roads in county for which $200,000 bonds have been voted. John R. Thompson, co. road engr.

Wasioto, Ky.—Reported city will spend $30,000 for street improvements this year.

Whitesburg, Ky.—County will shortly issue through the Fiscal Court $20,000 additional road bonds.

Akron, O.—Road bonds for $17,876 will be sold Jan. 24 by Co. Aud.

Cadiz, O.—Contract will probably be awarded by county about March 15 for paving ¾ mile of Tippecanoe road with brick on concrete base and constructing concrete curbs. E. P. Hines, co. aud. H. R. McCoy, co. engr.

Cincinnati, Ohio.—Estimates of Frank S. Krug, city engr., for paving with granite and constructing 6-in. water main in Fairbanks Ave., and paving with granite Harrison Ave., are $192,553 and $63,045, respectively.

Cleveland, O.—Contracts will probably be awarded about Feb. 15 by city for paving work estimated at $2,000,000. Robt. Hoffman, city engr.

Connellsville, Ohio.—Included in budget for 1917 is appropriation of $29,700 for streets and sewers. A. O. Bixler, city clk.

Porterville, Cal.—City intends constructing 8 miles of concrete sidewalks; estimated cost $30,000.

East View (Cleveland), O.—See "Waterworks and Sewage Systems."

Findlay, O.—State Highway Dept., Columbus, has promised Hancock County $43,000, providing county raises $157,000; roads which will probably be improved are Arlington-Findlay, Findlay-Fostoria and Findlay-Carey.

Hamilton, Ohio.—Street Com. has recommended portions of following streets be paved during 1917: West Main, East High, Ludlow and 3 others. John A. Holsberger, mayor.

Lockland, O.—Estimates of Wm. Boeh, co. surv., Cincinnati, O., for paving certain portions of Canal Road with macadam is $35,400, with concrete $85,500.

Boonville, Ind.—Road bonds for $16,821 will be sold Jan. 25 by James Allen, treas. Warrick Co.

Greencastle, Ind.—Road bonds for $12,500 will be sold Feb. 5, by H. H. Runyan, treas. Putnam Co.

New Albany, Ind.—Bd. Pub. Wks. intends paving Market St. from East 5th to East 13th Sts., 40 ft. wide, with vitrified brick, with granitoid on each side of street; estimates being made by Sam T. Mann, for improving portion of Spring St. through annexed territory.

Plymouth, Ind.—County intends spending $500,000 for graveling roads, with 10-ft. pavement and 22-ft. sub grade, some of which are: Rust, 18 miles in Polk township; Heyde, 12.5 miles in North township; Stephens, 5 miles in Center township. A. W. Thomson, co. engr.

Rushville, Ind.—County Comrs. have been petitioned to grade, drain and pave with gravel highway on dividing line between Ripley and Posey townships. William H. McMillin, co. aud.

Barago, Mich.—County voted, Jan. 8, to issue $110,000 good road bonds. Frank F. Roger, engr., state highway comn., Lansing, Mich. M. Voetsch, co. clk.

Jackson, Mich.—County will vote at April election on $900,000 road bonds for constructing with concrete, east and west, and north and south trunk line highway system.

Chicago, Ill.—Contracts will be awarded in sections of 3 to 9 miles each, first week in Feb. and every 2 weeks thereafter, for constructing 60 miles of county's proposed hard surfaced roads, estimated to cost $1,000,000. Alternate bids will be received on 7-in. concrete; 2-in. asphaltic concrete on 6-in. macadam base or on 5-in. base of 1:3:5 concrete. Longest road, 6 miles of which is now under construction, is Higgins road, 25 miles long, from Chicago city limits to county line, divided in 2 sections; two maps of county—one shows location of all sand, gravel and stone supplies within reasonable distance of various sections; other to be furnished to contractors taking out plans, shows sections of all roads to be constructed this year and those now under construction and closed to traffic, all RR. sidings and number of freight cars that can be accommodated on same, also outlines of boundaries of all municipalities, some of which require special permits for use of heavy motor trucks. Geo. A. Quinlan, co. highway supt., 325 Court House, Chicago, Ill.

Jacksonville, Ill.—Contracts will probably be awarded in March for paving with sheet asphalt on 5-in. concrete foundation, 22,000 sq. yd.; also 2890 sq. yd. of wood block and 35,000 sq. yd. of Tarvia macadam surfacing on old streets. E. M. Benderson, pub. engr.

North Chicago, Ill.—City intends paving about 20 streets with 2 courses concrete, estimated at $120,000. R. J. Smith, engr., Waukegan, Ill. M. C. Decker, clk., corp. council.

Balsam Lake, Wis.—County will have $66,524 towards constructing trunk line system of highways, including bridges. J. R. McLean, co. highway comn.

Black River Falls, Wis.—County intends spending $35,000 for road work this year. A. D. Polleys, co. highway comr., Melrose, Wis.

Chippewa Falls, Wis.—County has $37,233 available toward constructing roads with crushed rock and gravel macadam, also for proposed concrete and steel bridges. Peter O. Lokrantz, co. highway comr.

Crandon, Wis.—County will hold election in April to vote $100,000 bonds for grading roads. C. G. Warnick, co. aud.

East Milwaukee, Wis.—Plans being prepared by F. W. Ullius, Jr., engr., 1305 Cramer St., for paving with concrete 60,000 sq. yd. on portion of Beverly, Oliver, Cramer and 2 other streets; also paving-material undecided—40,000 sq. yd. on Oakland Ave.

La Crosse, Wis.—City intends paving 2 miles of streets with brick and 5 blocks with asphalt macadam this year, city's share of expense being $25,000. Some of streets to be paved are: West Ave., State and Cass Sts. with brick; 11th and Ferry Sts. with asphalt macadam.

Mondovi, Wis.—City voted on Dec. 28 $40,000 bond issue to pave with concrete for 9 ft. in center and with shale and macadam on both sides of this strip, 5 miles of main streets leading to center of city from six directions.

Neillsville, Wis.—County has available $70,000 toward constructing 150 miles of proposed highway system. W. C. Thoma, co. highway comr.

Sparta, Wis.—County intends spending $75,000 for road work this year. F. M. Johnson, co. highway comr.

Viroqua, Wis.—County has appropriated $72,000 to construct roads, some of which will probably be concrete, and bridges, also $15,000 toward starting constructing of trunkline highways; total funds available $150,000. C. W. Buetow, state div. engr., La Crosse. Wis. Alex Ristow, co. highway comr.

Waukesha, Wis.—County has $95,000 available, $39,000 of which is from 1916 road funds, toward constructing proposed 160 miles of highway system, 40 miles of which as definitely planned include following roads: Janesville Plank; Ocomowoc-Eagle; Menomonee Falls-Waukesha; Sussex-Hartford; Waukesha-Goerke's Corners; also Delafield road from Waukesha west to Jefferson Co. line and roads from Waukesha to Eagle and to Mukwongo. Chas. J. Hahn, co. highway comr., Delafield, Wis.

Whitehall, Wis.—County has $75,000 toward constructing and improving roads and bridges this year. E. F. Rotering, co. highway comr., Arcadia, Wis.

Audubon, Ia.—City considering paving 25 blocks.

Burlington, Ia.—City considering paving 20 blocks at estimated cost of $47,000.

Cedar Rapids, Ia.—City's paving program for this year includes 35 blocks of paving.

Davenport, Ia.—City intends, at estimated cost of $300,000, repaving 38 streets, principally with asphalt concrete, some with concrete, others with brick. Some of streets on which asphalt will be laid are: Bowaitch, Cedar and 14th Sts., with brick; Christie St. and Eastern Ave. and with concrete 4 alleys. Excess grading will cost $4,859, intersections $26,661. John W. Crowley, pub. wks. comr.

Denison, Ia.—City considering paving 17 blocks at estimated cost of $30,000.

Early, Ia.—City considering paving 5 blocks at estimated cost of $30,000.

Emmetsburg, Ia.—City considering paving 40 blocks at estimated cost of $80,000.

Hampton, Ia.—Contracts will be awarded by City Council about Feb. 15 for paving 90,000 sq. yd. and constructing 90,000 lin. ft. of curbing or combined curb and gutters. Theo. S. DeLay, engr., Creston, Ia.

Perry, Ia.—City's program for 1917 includes paving of 25 blocks.

Traer, Ia.—Reported city intends paving at estimated cost of $50,000, 15 blocks during this year.

Valley Junction, Ia.—City intends paving 63,000 sq. yd. this year.

Vinton, Ia.—City is considering paving 20 blocks this year.

Luverne, Minn.—County intends grading 40 miles of roads; estimated cost $50,000. Olaf Skyberg, co. aud.

Ortonville, Minn.—County intends spending $25,000 to grade and gravel various state roads this year. A. V. Randall, co. aud.

Fairbury, Neb.—Contracts will be awarded this spring by city (R. A. David, clk.), for paving number of streets for which $50,000 bonds have been voted. Grant & Fulton, engrs., Lincoln, Neb.

Conway, Ark.—Estimated cost to construct 18 miles of county highway placed at $110,371; 8 miles of highway in Conway-Saltillo district will probably be improved.

Buda, Tex.—Road Dist. No. 3, Hays Co., voted $75,000 road improvement bonds. Address Co. Clk., San Marcos, Tex.

Clarksville, Tex.—City intends paving 44,000 sq. yd. and constructing 24,000 lin. ft. of curbing.

Corsicana, Tex.—Contracts about to be awarded for road district work in Kerens Road Dist. Estimated cost $150,000.

County sold $150,000 bonds which will be used to construct good roads connection with road system now being constructed in Texas; bonds were voted Nov. 4 by Dist. No. 9.

El Paso, Tex.—County Comrs. considering issuing $400,000 road improvement bonds; election to authorize issue will probably be called in near future.

Houston, Tex.—County Comrs. have authorized improvement of Clinton Road on ship channel, also Kuykendall Road in northern part of county, with funds from original $240,000 Harrisburg Road bonds.

San Angelo, Tex.—City voted, Jan. 9, $25,000 to repave number of streets.

Taylor, Tex.—Precinct No. 4, Williamson Co., will shortly hold election to vote $250,000 road improvement bonds. Address Fred. I. Fisher, secy., Taylor Good Roads Assoc.

Montesano, Wash.—County has $85,533 for permanent highway construction this year. Geo. D. Robertson, co. engr.

Okanogan, Wash.—Cost to complete state highway No. 10 is estimated at $92,870 by H. E. Smith, engr., County Court House.

Seattle, Wash.—Contracts will be awarded by Co. Comrs. early in spring for paving with brick 3 miles of highway from Duwamish River to Renton Junction, for which plans have been submitted to State Highway Comn., Olympic, Wash.; estimated cost $100,000. S. J. Humes, co. engr. N. M. Wardell, co. aud.

Washington.—Estimated cost to construct proposed road, 28.49 miles long, for which surveys have been completed, from Narada Falls in Rainier Natl. Park to Cayuse Pass in Coast Range, of which 20.86 miles will be in Rainier Natl. Park, 18 miles in Lewis Co., 10.05 miles in Pierce Co., and 7.63 miles in Rainier Natl. Forest, placed at $326,276, or $11,277 per mile, by J. G. Morgan, engr., Natl. Park Government Service. Address Co. Clk., Chehalis, Wash.

Hood River, Ore.—County's budget for 1917 includes $42,000 for roads and $15,000 for bridges. H. H. Hurlburt, co. engr.

Bakersfield, Cal.—See "Roads and Paving, Prices and Lettings."

Coaligna, Cal.—Surveys being made by J. B. Woodson, state highway div. engr., Fresno, for constructing highway over Coast Range Mountains from point south of Lemoore in San Joaquin Valley through Priest Valley via Coalinga to point south of Kings City on coast highway; estimated cost $3,000,000.

Hanford, Cal.—Benn Duffield, co. surv., estimates that it will take about $100,000 in addition to bond issue of $672,000 to complete highway system of approximately 100 miles.

St. John, N. B.—Bd. Pub. Wks. estimates for proposed street repairs during 1917 placed at $14,000; for sidewalks and crossings, $4,000; for paving portions of 6 streets with asphaltic material, total of 20,800 yd., $22,614, of which 3 are Charlotte, Princess and Sydney Sts.: 3866 yd. bituminous, 1334 yd. granite block on Main St., $32,850; 4170 yd. bituminous, 570 yd. brick, on Union St., $19,324.

London, Ont.—Contracts will probably be awarded about Feb. 25 by city for asphalt pavement work, estimated at $60,000. Harry Brazier, city engr.

North Vancouver, B. C.—The district intends macadamizing Capilano road to 2d Canyon; also portion of Pemberton Ave. J. G. Farmer, clk.

BIDS DESIRED

Manchester, Conn.—Reported desired until March 1, for constructing concrete sidewalks and curbs; cost about $23,000. J. F. Bowan, city engr.

Brooklyn, N. Y.—Until Jan. 24, by L. H. Pounds, boro. pres., Room 2, Boro Hall, for regulating and repairing with permanent grade 1 granite pavement (new) on 6-in. concrete foundations, portions of Bway; engrs. estimate 4320 sq. yd. outside railroad area, 1540 sq. yd. within railroad area, both with joint filler of coal tar pitch, together with curbing, etc.; security $8,400; portions of Hamburg Ave., about 5140 sq. yd. granite pavement outside railroad area, 1040 sq. yd. within railroad area, both with joint filler and coal tar pitch, and sand, together with curbing, etc.; security $10,000; portions of Union St., about 6215 sq. yd. asphalt paving, outside railroad area (5 yrs. maintenance), 1445 sq. yd. within railroad area (no maintenance) together with curbing, etc.; security $8,000; portions of Union St., about 1385 sq. yd. grade 1 granite pavement outside railroad area, 430 sq. yd. within railroad area, both with joint filler of coal tar pitch and sand; together with curbing, etc.; security, $3,100.

Gowanda, N. Y.—Reported desired until Feb. 1, by village for constructing 13,000 sq. yd. concrete paving. F. J. Herzog, clk.

New York, N. Y.—Until Jan. 23 by Douglas Mathewson, pres. Bronx Boro., Municipal Bldg., Crotona Park, Tremont and 3d Aves., for repairing asphalt block pavement and setting curb where necessary, together with all work incidental thereto: engr's estimate, 4300 yd. completed asphalt block pavement, including asphalt pitch filler, mortar bed and concrete foundation, 200 lin. ft. old curbstone reset in concrete including concrete foundation; security, $5,000; also for furnishing and delivering following materials: 9000 cu. yd. 1½-in. broken trap rock stone and 3000 cu. yd. broken trap rock stone screenings, 2500 cu. yd. binder stone, 9000 cu. yd. sand grits, 325,000 gal. tar road oil, 500 cu. yd. white quartz washed paving gravel, 20,000 gal. bituminous road surfacing material (for use hot, spruce lumber, long leaf yellow pine lumber, 2000 cu. yd. fine sand, 4500 bags Portland cement, 450,000 gal. asphalt road oil, 650 tons limestone or other suitable inorganic dust, 5500 cu. yd. asphalt wearing surface sand, 50 tons paving pitch, 800 tons asphaltic cement; security, 30 per cent for each item.

Until Jan. 25, by Douglas Mathewson, pres. Bronx Boro, Municipal Bldg., Crotona Park, Tremont, 3rd Aves., for regulating, grading, setting curb, laying sidewalks, building inlets, receiving basins, drains, culverts, etc., on portion of Ellis Ave.; work includes 6500 cu. yd. earth excavation, 700 cu. yd. rock excavation, 17,400 cu. yd. filling, 5680 lin. ft. concrete curb (including maintenance for 1 year), 28,850 sq. ft. of two-course concrete sidewalk (including maintenance for 1 year), receiving basins, etc., security $10,000; for filling, building approaches, and guard rails in portions of Tibbett Ave.; work includes 100 cu. yd. excavation of all kinds, 46,600 cu. yd. filling south of W. 236th St., 22,900 cu. yd. filling, in north of W. 236th St., 300 lin. ft., vitr pipe drains, etc., security, $15,000; for constructing sewer and appurtenances in portions of Eastchester Road; work includes 48 lin. ft., triple concrete sewer, 11 x 8 ft., 2012 lin. ft., single concrete sewer, 7 ft. 6 in. x 8 ft. to 13 ft. x 9 ft., 233 lin ft. vitr. pipe sewer, from 12 in. to 20 in., 1600 cu. yd. rock excavation, 750 cu. yd. class "B" concrete, 10 cu. yd. class "C" concrete, manholes, etc.; security, $40,000; for constructing sewer and appurtenances in portions of Cauldwell Ave., work includes 884 lin. ft. pipe sewer, 12 in., basin connections, 1200 cu. yd. rock excavation, 55 cu. yd. class "C" concrete, etc., security $3,500.

Until Jan. 26, by Douglas Mathewson, pres. Bronx Boro., for improving portions of Ellis Ave., to consist of 28,850 sq. ft. two-course concrete sidewalks (maintenance for 1 yr.), together with curbing, 17,400 cu. yd. fill, receiving basins, earth and rock excavation, etc.; security $10,000; for filling building approaches and guard rails where necessary in portions of Tibbetts Ave., W. 234th and W. 240th Sts., 69,500 cu. yd. fill, 4000 lin ft. guard rail, vitr. pipe drains, etc.; security $15,000; constructing sewers and appurtenances in portions of Eastchester Rd., consisting of 1952 lin. ft. single concrete sewer 13 x 9 ft., 48 lin. ft. triple concrete sewer 11 x 8 ft., 60 lin. ft. single concrete sewer 7 ft. 6 in. x 8 ft.; 42,000 lb. steel reinforcing bars, 650 lin. ft. new guard rail, 234 lin. ft. 12 to 30-in. vitr. pipe sewer, excav., etc.; security $40,000; constructing sewers in portions of Caldwell Ave. (Park St.), about 884 lin. ft. 12-in. vitr. pipe sewer, together with manholes, excav., etc.; security $3,500.

Belvidere, N. J.—Until Feb. 3, by Twp. Committee (Frank L. Pursell, clk.) for improving Forge-Springtown Road in Pohatcong Twp., in all about 7009 sq. yd. paving; specifications may be obtained from State Comr. Pub. Roads, Trenton.

Camden, N. J.—Until Feb. 12, by John Prentice, dir. bd. freeholders, for improving Cedar Brook Road (Winslow Twn.) Lindenwood Road (Clementon Twp.), with gravel surface upon earth foundation; estimated amount pavement required, 17,758 cu. yd.; specifications may be obtained from J. J. Albertson, co. engr. Certified check for $1,000 for each item must accompany bid.

Flatbrookville, N. J.—Until Feb. 1, by Walpack Twp. Committee (Eugene Rosenkrans, chmn.), for improving the Ennis Bridge-Flatbrookville Road, about 2½ mi., 31,822 sq. yd. gravel surface and 13,822 sq. yd. rock bottom foundation; advertised in this issue.

Maryland.—Until Jan. 23, by State Roads Comn. (Frank A. Zouck, chmn.), 601 Garrett Bldg., Baltimore, for hauling out about 27,709 tons stone chips for oiling 14 state roads.

Charleston, W. Va.—Until Feb. 14, for 3.2 miles hard surface road, Lowdon Dist., Kanawha Co. P. J. Walsh, engr. & gen. supt.

Albany, Ky.—Until Feb. 13, by City Comrs., for constructing good roads surrounding this city; $40,000 bonds already voted.

Blackey (Indian Bottom P. O.), Ky.—Until Feb. 16 by City Comrs. for building and improving roads; $25,000 already voted.

Columbia, Ky.—Until Feb. 8, for street improvements during 1917; expenditure $30,000. Address City Comrs.

Georgetown, Ky.—Until Feb. 12, for street improvement during 1917; expenditure $100,000. Address the Mayor.

Grundy, Va.—Until Feb. 22 for street improvement; expenditure about $25,000, for which bonds have already been voted. Address City Clk.

Grayson, Ky.—Until Feb. 6, by County, for road building and street improvement; cost about $125,000. Address City Engr.

Inez, Ky.—Until Feb. 6, for improving streets; cost about $20,000. Address Mayor.

Jamestown, Ky.—Until Feb. 13, for road construction during 1917; $50,000 bonds have been voted. Address County Judge.

Louisville, Ky.—Until Jan. 24, at office Bd. Pub. Wks. (Roger G. McGrath, secy.) for constructing sidewalks in portions of Owen, 31st, 29th, Kentucky Sts.; certified check for 5 per cent, payable to City Treas., to accompany bid.

Olive Hill, Ky.—Until Feb. 2, for street improvements during 1917; expenditure $40,000. Address City Comrs.

Cincinnati, O.—Until Jan. 25, by Chas. F. Hornberger, Div. Pub. Serv., for improving with waterbound macadam portions of Bassett Road, Beach Ave., with bituminous macadam and portions of Walworth Ave.

Street improvement bonds for $200,000 will be sold Feb. 15, by City Council (L. J. Dauner, pres.) for purpose of providing funds for repairing viaducts, bridges, etc. Chas. F. Hornberger, dir. pub. serv.

Cleveland Heights (Warrensville P. O.) Ohio.—Reported bonds for $64,550 will be sold Feb. 6, by town (J. A. Fitzgerald, clk.), for paving 9 streets.

Ravenna, O.—Until Jan. 31, by City Council for improving Main and Railroad Sts.; cost about $25,000; previous item Ravenna, Ky., an error.

Springfield, Ohio.—Reported desired until Jan. 31, for paving 9 streets; cost about $115,000. Address C. E. Ashburner, city mgr.

Indiana.—Reported desired by Co. Comrs. for constructing following roads:

Evansville, Jan. 29, for grading, curbing, paving and improving various roads in various townships. C. D. Beard, co. aud.

Winchester, for grading, paving, and improving roads in Monroe Twp. Chas. E. Tillsa, co. aud.

Bluffton, Feb. 1, for stone road between Allen & Wells Co.'s. C. T. Kain, co. aud.

Browntown, Feb. 5., for grading, curbing and improving roads in various twps. Albert Ludecke, co. aud.

Kokomo, for paving roads in Center and Liberty Twps. W. L. Benson, co. aud.

Brazil, for grading, curbing and paving roads in Van Buren Twp. William O. Graeser, co. aud.

Vincennes, Ind.—Until about March 1, for 7600 sq. yd. sheet asphalt on Scott St.; cost about $18,000. H. T. Watts, city engr.

Canton, Ill.—Reported desired until March 30, by County (E. F. Motsinger, co. supt. highways), for improving roads; cost about $23,000.

Gillespie, Ill.—Until Jan. 24, for constructing brick pavement; cost about $27,607; S. T. Morse, city engr., Calinville.

Lincoln, Ill.—Reported desired until Feb. 1, by city for paving various streets; cost about $70,000. W. C. Bates, city engr.

Whitewater, Wis.—See "Waterworks and Sewage System."

Sheridan, Wyo.—Until Feb. 6, by County, for 4 clear-span steel truss bridges, 150 ft., 100 ft., 80 ft., 60 ft. spans.

DeQueen, Ark.—Until Feb. 1, by Comrs. Road Imp., Dist. No. 1, Sevier Co., for constructing about 27 miles gravel road and incidental bridges, culverts, etc.; certified check for $3,000 to accompany bid; plans may be obtained from Clk. or from Parkes Eng. Co., 203 Citizens Bank Bldg., Pine Bluff.

Stockton, Cal—Reported desired until Feb. 19, by E. D. Graham, co. clk., for improving Harney Lane, Palm Ave., and Brack Road.

PRICES AND LETTINGS

★Indicates award of contract.

★New York, N. Y.—Contract awarded by Pres. Bronx Boro., Municipal Bldg., 177th St. and 3d Ave. (bids opened Dec. 28), to J. V. Troisi, 35 S. 3d Ave., Mt. Vernon, N. Y., at $31,853, for grading, setting curb, constructing sidewalks and crosswalks, inlets, receiving basins, drains, culverts, approaches and guard rails in portions of Unionport Rd. and Amethyst St.; also to Fred. Schneider, 1531 Westchester Ave., New York City, at $25,882, for same work in portion of Olmstead Ave.

★Newton, N. J.—Contract awarded by Bd. Freeholders to Richards & Gaston, 143 Liberty St., New York City, for paving Newton-Sparta road, for which $25,000 bonds were recently sold.

★Freehold, N. J.—Contract awarded by Bd. Freeholders to Hafeman & Co., Freehold, N. J., at $12,279, for repairing 6 roads. Same firm is low bidder for paving with amiesite, 1.2 mile of Brighton Ave., Long Branch, N. J., at $16,651, and 2-mile sect. of Keyport-Red Bank road, at $72,623. (Bids opened Jan. 10.)

★Rustburg, Va.—Contract awarded by county in Brooksville Road Dist. (J. T. McKinney, chmn., 1114 Peoples Natl. Bank Bldg., Lynchburg, Va.), for constructing 1 mile of Langhorne road.

★Bradentown, Fla.—Contract awarded by county (bids opened Jan. 8) to Curry & Turner, Bradentown, Fla., at $66,300 (62 cts. per sq. yd.), for hard surfacing with macadam, 105,600 sq. yd.; at $20,700 (22.5 cts. per cu. yd.) for grading 92,000 cu. yd.; at $1,960 ($14 per cu. yd.) for constructing 4 concrete culverts, 140 cu. yd. of concrete, on roads in Englewood Special Road and Bridge Dist. H. B. Glover, co. engr.

★New Concord, O.—Contract awarded by village (bids opened Jan. 4) to Adams Bros. Contr. Co., Zanesville, O., at $34,850, for grading, curbing and paving 1.5 miles with brick on 5-in. concrete base. W. C. Trace, village clk.

★Warren, O.—Contract awarded by county (bids opened Jan. 9) to J. J. Walters, Hubbard, O., at $16,590, for improving 9.2 miles of waterbound slag roads in Weathersfield township. A. C. Griffing, deputy co. aud.

★West Allis, Wis.—Contract awarded by city (bids opened Dec. 30) to Chas. Haworth, 4125 Belcit Road, Milwaukee, Wis., at 45 cts. per cu. yd., for improving George St. and all avenues between 60th and 67th Aves. E. G. Orbert, city engr.

★Frost, Tex.—Contract awarded by county to McElwrath & Rogers, Athens, Tex., for constructing 45 miles of gravel roads here. Chas. Chappell, ch. engr., Kaufman, Tex. Robt. Ross, resident eng., Frost, Tex.

★Tulsa, Okla.—Contract awarded by city (bids opened Jan. 8) to H. P. McCormick, Tulsa, at $113,637, for paving and improving portions of Chicago Pl., Cameron St., Cincinnati and other avenues. H. H. Wyss, city clk.

★Kennewick, Wash.—Contract awarded by city to Wm. A. Morain, Spokane, Wash., at $13,000, for paving and grading more than 1 mile of city streets.

Seattle, Wash.—Lowest bid received by county for grading and graveling 3-mile highway between Lake Burien and Three Tree Point, was from Henry Brice, Mutual Life Bldg., Seattle, Wash., at $25,331. St. J. Humes, co. engr.

★South Bend, Wash.—Contract awarded by county (bids opened Jan. 10) for constructing Nasel-Knappton road, 3 miles long, to A. J. Scott, Astoria, Ore., at $14,757. Chas. S. B. Henry, co. engr.

★Walla Walla, Wash.—Contract awarded by county to L. Lanning, Walla Walla, at $15,556, for constructing portion of permanent highway No. 15, 21,000 lin. ft. long.

★Bakersfield, Cal.—Contract awarded by county (bids opened Jan. 9) to Thompson Bros., Fresno, Cal., at $23,829, for grading, constructing culverts, spreading broken stone, rolling and oil surfacing road, requiring about 33 tons of rock and screenings per 100 ft. on Div. I., Delano Co. line road. F. E. Smith, co. clk.

★Bakersfield, Cal.—Contract awarded (bids opened Jan. 9) by Bd. Supervs. to Thompson Bros., Fresno, Cal., at $23,829 for grading and constructing culverts and surfacing with broken stone 8.57 miles of Div. I. Delano Co. line road.

All bids received Jan. 9 by Bd. Supervs. for grading and constructing bridges and culverts on Div. 9, Sec. 5, 11.5 miles adjoining Glenville, on Bakersfield-Glenville Road, Robert Sherer, 650 Pacific Elec. Bldg., Los Angeles, Cal., low bidder at $45,427. New bids will be asked.

Fillmore, Cal.—Low bidder for grading 2760 lin. ft. of 40 ft. roadway and constructing 22,763 lin. ft. cement curbs and 114,840 sq. ft. cement sidewalks in city was Crown Constr. Co., Culver City, Cal., $16,153.

★Hanford, Cal.—Contract awarded by City Trustees to Federal Constr. Co., Sharon Bldg., San Francisco, Cal., at $188,944 (next lowest bidder Clark & Henery Constr. Co., Stockton, Cal., $195,136), for improving about 4 miles of streets, involving approximately 977,000 sq. ft. of 1½ in. bitulithic pavement on 4-in. concrete base; 49,850 lin. ft. cement curbs; 85,400 sq. ft. concrete gutters; 30-in. reinforced concrete and corrugated storm drains.

★Los Angeles, Cal.—Contract awarded by Bd. Pub. Wk. to California-Arizona Constr. Co., 1700 E. Washington St., Los Angeles, Cal., at $32,206, for paving with Warrenite on concrete base 146,070 sq. ft., including reinforced concrete culverts and concrete and granite block gutters on portion of 48th St.

★Placerville, Cal.—Contract awarded by county to Scott & Turner, Sacramento, Cal., at $18,685, for constructing 3½ miles of Morgan grade highway.

★Stockton, Cal.—Contract awarded by county (bids opened Jan. 2) to C. Moreing, Stockton, Cal., at $26,041, for paving with oil macadam 68 miles of Durham Ferry highway. E. D. Graham, co. clk.

RAILWAYS
Steam and Electric

PROPOSED WORK

Buffalo, N. Y.—International Ry. Co. (E. G. Connette, pres.) reports that during 1917 it will lay 32 miles of new track between Buffalo and Niagara Falls and 8.8 miles of track in Buffalo.

Ashland, Pa.—Eastern Pennsylvania Ry. Co. (J. H. Pardee, pres., 43 Exchange Pl., New York City) plans constructing an electric railway from St. Clair or Frackville to Ashland.

Erie, Pa.—Buffalo & Lake Erie Traction Co. (A. R. Myers, gen. mgr.) plans laying 2 miles of track here during 1917.

Nazareth, Pa.—Allen Street Ry. Co. (N. K. Putnam, gen. mgr.) plans laying 1 mile of new track.

Philadelphia, Pa.—Surveys being made by City Engineering Dept. for Woodland Ave. section of proposed Darby Elevated and High Speed Line. Contracts will be let in February; cost about $1,000,000.

Augusta, Ga.—Savannah River Terminal Co. has been granted a franchise to extend its tracks from Elbert St. east along the course of the levee to and across East Boundary St. and then through a right-of-way which the company has acquired below East Boundary to connect with the tracks of Charleston & Western Carolina Ry. at Gwinnett St.

Kingsland, Ga.—Early this year definite steps will be taken looking to extension of the Atlantic, Waycross and Northern RR. (D. C. Edwards, ch. engr., St. Marys), from Kingsland to Waycross.

Dawson Springs, Ky.—Illinois Central R. R. (A. S. Baldwin, ch. engr., Chicago, Ill.) plans constructing railroad from here to Providence, Ky., distance of 40 miles, to connect with Louisville & Nashville and Evansville & Henderson route. A. B. B. Harris, engr.

Cleveland, O.—Reported Cleveland Ry. Geo. L. Radcliffe, gen. mgr.), plans laying 10 miles of new track during 1917.

Ft. Wayne, Ind.—Plans for elevating tracks of Pennsylvania RR. (Alex C. Shand, ch. engr., Philadelphia, Pa.), at Lafayette and Hanna Sts., reported approved by Bd. Pub. Wks. Wm. J. Hosey, mayor.

Detroit, Mich.—Reported Detroit United Ry. (F. W. Brooks, gen. mgr.) plans constructing 29 miles of city track and 47 miles of interurban line between Highland Park and West Utica and between Oakwood and Dearborn.

Boone, Ia.—Reported Fort Dodge, Des Moines & Southern Ry. (C. H. Crooks, gen. mgr.) plans constructing 10 miles of line connecting Fort Dodge and Brushy to permit operation to Webster City and Lehigh on Old Crooked Creek Ry., now a part of above railway.

Duluth, Minn.—Duluth Street Ry. (Herbert Warren, gen. mgr.) plans constructing 3.13 miles of city track during 1917.

Sioux Falls, S. D.—Reported Sioux Falls Traction Co. (F. M. Mills, gen. mgr.) plans laying 2 miles of track during 1917.

Conrad, Mont.—Great Northern RR. Co. (A. H. Hogeland, ch. engr., St. Paul, Minn.), will construct about 60 miles of branch road in Teton and Chouteau counties, as a feeder to serve the farming land lying between Teton and Marias rivers. Locating Engineer M. A. Butler, St. Paul, Minn., with surveyors now at Conrad, from where preliminary lines have been started.

Kansas City, Mo.—Reported Kansas City Ry. Co. plans laying 8 or 10 miles of new track during 1917.

Maplewood, Mo.—United Rys. of St. Louis (Richard McCulloch, gen. mgr.) plans laying 1 mile of new track here during 1917.

Ardmore, Okla.—Ardmore Ry. Co. plans constructing about 30 miles of new line during this year; the extension will probably be built northwest from here.

Shattuck, Okla.—Santa Fe RR. Co. (J. A. Jaeger, ch. engr., Prescott, Ariz.), plans to construct 75-mile line west from here, into Texas.

Leavenworth, Wash.—See "Industrial Plants and Warehouses."

Port Angeles, Wash.—Port Angeles & Grays Harbor Ry. Co. recently filed articles of incorporation here and will construct 130-mile line from here to Moclipse via south shore of Lake Sutherland and Lake Crescent. Incorporators are J. W. Lindsay, J. W. Redden and John Cain, the same men who organized the Seattle, Port Angeles & Western RR. Co.

Marshfield, Ore.—James Watson, co. judge, Coquille, granted franchise to Smith-Powers Co. for extending railroad from here to Myrtle Point, a distance of 30 miles; cost $1,000,000.

Portland, Ore.—Reported bond issue of $350,000 will soon be made by Portland & Oregon City St. Ry. for extending its line from present terminus 15 miles southeast of Portland to Viola-Highland County.

Prineville, Ore.—Bonds for $100,000 recently voted by city have been sold to be used for constructing railroad from here to connect with the Oregon Trunk line.

Fullerton, Cal.—Reported Atchison, Topeka & Santa Fe RR. Co. (W. G. Harris, ch. engr., Coast Lines, Kerchoff Bldg., Los Angeles) surveying line through La Habra Valley, commencing at Olinda and probably via Yorba Linda to point near Northam.

San Diego, Cal.—San Diego Electric Ry. Co. (J. D. Spreckels, pres.) will construct electric line 1½ miles, with 114-lb. rails, from Balboa Park to University Ave., including 3 steel bridges.

Salt Lake City, Utah.—Salt Lake & Utah R. R. (A. R. Armstrong, ch. engr.) plans extension to Salina Canyon.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK

Hopedale, Mass.—Reported Draper Co., machine mfgrs., are receiving bids for erection of 4-story and basement 70 x 100-ft. brick addition, to present plant. F. P. Sheldon Co., archts., Providence, R. I.

Stafford Springs, Conn.—Reported Smith & Coolay, woolen manufacturers, whose plant was recently destroyed by fire, will rebuild mill; cost about $50,000.

Lockport, N. Y.—Reported Tothill Shirt Co. of Lock St. (W. S. Tothill, pres.) purchased 20 acres on Transit St., near city line, and will erect model factory.

Harrison, N. J.—Reported General Electric Co., Schenectady, N. Y., filed plans for erecting addition to lamp manufacturing plant at S. 5th and Bergen Sts.; cost about $250,000.

Harrison, N. J.—Plans prepared for erection of addition at rear of Crucible Steel Co. plant between Sixth and Seventh Sts.; cost about $200,000.

Perth Amboy, N. J.—Reported Roessler & Hasslacher Chemical Co. plan erecting addition to present plant; cost about $1,000,000.

Palo Alto, Pa.—Reported Eastern Pennsylvania Ry.'s Co. (L. H. Palmer, gen. mgr.), Pottsville, will rebuild car barns, storage houses and powerhouse here, recently destroyed by fire, with loss of about $600,000.

Philadelphia, Pa.—Reported Herman L. Winterer, 908 Beach St., Philadelphia, will erect warehouse on site 115 x 200 ft., on N. Front St.; cost about $70,000.

Martinsville, Va.—Reported Marshall Field & Co., Chicago, purchased 1200 acres of land surrounding this town for erecting large factories and mills on Norfolk and Western Ry. Line.

Wheeling, W. Va.—Reported American Bottle Co., subsidiary of the Owens Bottle Machine Co., 30 E. Rand St., Chicago, will erect $2,000,000 plant here for manufacture of pint glass bottles.

Cincinnati, O.—Plans being prepared by Ward Baldwin, consulting engineer, 809 Commercial Tribune Bldg., for erecting addition to Union Distilling Co.'s plant, Carthage; estimated at $200,000.

Plans being prepared by Bert L. Baldwin, 72 Perin Bldg., for erecting two large additions to plant of Cincinnati Planer Co., South St.; buildings will contain 25,000 sq. ft. floor space, and cost about $100,000.

Cleveland, O.—See "Buildings."

Chicago, Ill.—Reported Hurley Machine Co., 24 E. Jackson Blvd. (Edward N. Hurley, owner), will erect model factory; cost $400,000.

Reported Wells, Fargo & Co., 30 N. Dearborn St., have taken site and will erect 10-story warehouse and garage at 5th Ave. and 4th St.

Reported Geo. H. Shank, 3840 Grand Blvd., purchased vacant plot, 104 x 195 ft., in Federal St. for erecting 4-story warehouse; cost $150,000.

Minneapolis, Minn.—Reported Minneapolis General Electric Co. plans erecting 200 x 375 ft. sub-station for storage and repair shop; to cost $500,000.

St. Cloud, Minn.—Reported Great Northern Ry. Co. (A. H. Hogeland, ch. engr., St. Paul) will erect addition to shops here; cost $100,000.

St. Cloud, Minn.—Report Great Northern Ry. Co., 175 E. 4th St., St. Paul, plans erecting $100,000 car shops here.

St. Paul, Minn.—Great Northern Ry. Co., 175 E. 4th St., plans erecting large freight depots and terminal yards to cost between $3,000,000 and $4,000,000; subsidiary company, Great Northern Terminal Ry. Co. (Louis W. Hill, pres., same address), incorporated for the purpose.

Eldorado, Kan.—Reported W. G. Skelly, Tulsa, Okla., and W. Irving Osborne, 606 S. Michel Ave., Chicago, purchased 180-acre site for erecting $300,000 refinery plant here. G. W. Gray, Mgr. and Local Supt.

Bigfort, Mont.—Reported Glacier Park Pulp & Paper Co. will erect paper mill in this vicinity, and for this purpose company has been organized at St. Paul with $100,000 capital. L. S. Gillette, pres., 827 Nicollet Ave., Minneapolis.

Bremerton, Wash.—Plans being completed by E. L. Blaine, Washington Securities Bldg., Seattle, for erecting his proposed gas plant here; cost $75,000.

Leavenworth, Wash.—Reported Great Northern Ry. Co. (A. H. Hogeland, ch. engr., St. Paul, Minn.) plans erecting new round house, increasing capacity of present structure from 14 to 26 engines; also erecting machine shops, oil house, 12 sidings, each 1 mile long, etc.

Spokane, Wash.—See "Reinforced Concrete."

San Francisco, Cal.—See "Reinforced Concrete."

Cobourg, Ont.—Plans being prepared by Federal Steel & Foundry Co. for erecting new steel plant and rolling mills to cost $50,000.

New Westminster, B. C.—Plans being prepared for erecting 50 x 250 ft. freight house, with tracks and appurtenances to serve same, for Northern Pacific Ry. Co., Tacoma, Wash. (L. M. Perkins, engr. maintenance of way); cost about $50,000.

BIDS DESIRED

Philadelphia, Pa.—Until Feb. 5, by U. S. Engrs., 815 Witherspoon Bldg., for erecting 1-story brick, concrete and steel storage building, 50 x 200 ft., at Fort Mifflin.

PRICES AND LETTINGS

★*Indicates award of contract.*

Boston, Mass.—See "Reinforced Concrete."

★**Stamford, Conn.**—Contract awarded Austin Co., 412 Newfield Bldg., Bridgeport, for erecting 72 x 200-ft. 3-story smelter building by Stamford Rolling Mills Co., Stamford. Previous item (Stamford, Ia.) an error.

★**Brooklyn, N. Y.**—Contract awarded Turner Construction Co., 11 Bway, New York, for erecting reinforced concrete 200 x 80-ft. 4-story warehouse and basement for W. Becker's Aniline & Chemical Works, at 83d St. and Ditmas Ave.

★**Philadelphia, Pa.**—Contract awarded Wm. Steele & Sons Co., 1600 Arch St., Philadelphia, for erecting 1-story, 211 x 221-ft. brick machine shop and crane runway for Link Belt Co., Blabon St. and Hunting Park Ave., at $164,000.

★**Superior, Wis.**—Contract awarded by Great Northern Ry. Co. (A. H. Hogeland, ch. engr., St. Paul) to Westinghouse Church Kerr & Co., 37 Wall St., New York, for erecting car shops here, at about $300,000.

★**Superior, Wis.**—Contract awarded Westinghouse, Church Kerr & Co., 37 Wall St., New York, N. Y., for erecting $400,000 car shops for Great Northern Ry. Co.

★**Great Falls, Mont.**—Contract awarded Grant, Smith & Co., 1505 Pioneer Bldg., St. Paul, Minn., for erecting car shops for Great Northern Railway Co., Rice St.; cost $400,000.

★**Oxnard, Cal.**—Contract awarded by American Beet Sugar Co. to W. C. Duncan, Sharon Bldg., San Francisco, for erecting addition to present factory; cost, about $500,000.

BUILDINGS
Public and Private

PROPOSED WORK

Randolph, Mass.—Reported Co. Comrs. Dedham will erect Norfolk County hospital here on old Ferguson farm on Chestnut St. Structure will cost $100,000.

Amsterdam, N. Y.—Plans being prepared by Wilson Potter, 1 Union Sq., New York City, for erecting 2-story and basement grade school building; cost, $85,000; Leslie Bebb, bd. educ.

Brooklyn, N. Y.—Reported Abrast Realty Co. will erect addition to Abraham & Straus store, Livingston & Hoyt Sts.; cost $500,000; and A. I. Namm & Sons will spend upward of $60,000 for another building to occupy plot 44 x 72 ft. on Fulton St. east of Hoyt St. Plans for both were filed recently with Brooklyn building bureau.

Harrison, N. Y.—Plans have been completed by I. E. Ditmars, 111 5th Ave., New York, for erecting 2-story and basement, 46 x 90-ft. nurses' home; cost, 50,000, for Sisters of Charity of Mt. St. Vincent on the Hudson, Mother M. Josepha, Superior.

Middletown, N. Y.—Plans being prepared by D. H. Canfield, 15 Linden St., for erecting 2 and 3-story public school building; cost, $100,000. F. H. Finn, Pres. bd. educ.

Rahway, N. J.—Reported Y. M. C. A. plans erecting new home to cost about $100,000.

South Amboy, N. J.—Reported Bd. of Educ. will erect school building to cost $85,000.

Harrisburg, Pa.—Reported Harrisburg Academy Alumni at University Club plan to erect new $60,000 dormitory to Academy. Alumni will finance project.

Norristown, Pa.—State Hospital has filed application for appropriation of $200,000 for erecting addition to be used as ward building.

Philadelphia, Pa.—Plans being prepared by E. F. Durang & Son, 1220 Locust St., for erecting 3-story, 60 x 130-ft. school at 38th St. and Spring Garden Ave. for St. Agatha's R. C. Church; cost $100,000.

Reported Pennsylvania RR. Co. (A. C. Shand, ch. engr., Broad St. station) plans erecting new station in place of present Broad St. terminal. Building will face proposed Parkway to be built by city.

Shamokin, Pa.—Reported Chamberlain Amusement Enterprises, Inc., acquired property on Independence, and plans erecting theater, to cost about $100,000.

State College, Pa.—Reported Bd. Trustees, State College, arranging appropriation of $3,000,000, for work during next 2 years; $1,742,000 to be used for erecting additions.

Spartanburg, S. C.—Reported bond issue of $100,000 planned for erecting high school building. Address Mayor.

Gainsville, Ga.—Reported H. H. Dean will erect store to cost $100,000 to $300,000.

Macon, Ga.—See "Roads and Paving."

Decatur, Ala.—Reported Lyons Hotel (T. L. Hobart, mgr.) will erect annex to contain 80 rooms; cost $50,000.

Knoxville, Tenn.—See "Waterworks and Sewer Systems."

Ashtabula, O.—Reported Reno G. Hoag, Colonial Hotel, Prospect Ave. and Colonial Arcade, Cleveland, and P. C. Remick, Ashtabula, will erect hotel on Main St.; cost about $100,000.

Carey, O.—School bonds for $70,000 will be sold Feb. 2 by Bd. Educ. (I. L. Culler) for erecting new schoolhouse.

Cincinnati, O.—Plans being prepared by Hake & Kuch, 225 E. 4th St., for erecting new Masonic temple, at Fifth and Sycamore Sts., to cost $300,000. Work to begin in fall.

Reported Bd. of Educ. will erect new Hoffman School to cost $260,000. Address Bd. Educ.

Reported Bd. Educ. sold $300,000 bonds $260,000 of which will be used in erecting new Hoffman School building, Bloody Run Boulevard.

Cleveland, O.—Following structures contemplated: Apartment building at Woodworth Rd. and 141st St. for Potter & Atwater, contr., 1424 Larchmont Ave., Lakewood, cost $75,000; 2 commercial buildings, one at 2430 Prospect Ave. S. E., cost $75,000, other at Lexington Ave. and E. 55th St., cost $90,000, for Joseph Laronge Co., Williamson Bldg.; addition to plant and 4 new substations at E. 70th St. and Lake Erie, for Cleveland Electric Illuminating Co., Illuminating Bldg., cost about $100,000; arcade store from 301 Euclid Ave. to Superior Ave. at E. 3d St., for W. B. Davis Co., 301 Euclid Ave., cost $55,000; bank building at present location for Broadway Savings & Trust Co., Broadway Ave. and E. 55th St., cost $200,000; archts., Hubbell & Benes, 4500 Euclid Ave.

Columbus, O.—Plans completed by Morris Peterman, Gobey Bldg., for erecting 125 x 187-ft. garage, sales room and 2 store rooms, 2-story and basement, for E. F. Powell, 1392 E. Broad St.; cost, about $50,000.

Toledo, O.—Plans being prepared by Mills, Rhines, Bellman & Nordhoff Co. for erecting 75 x 125 ft. business block at Summit & Perry Sts., to be erected by Frank Collins for Miller & Hadley Co., wholesale dry goods merchants; cost about $100,000.

Detroit, Mich.—Plans being prepared by Louis Kamper, 703 Fine Arts Bldg., for erecting hospital to cost $100,000. Detroit General Hospital, care John F. McKinlay, 233 St. Antoine, owner.

Chicago, Ill.—Bids being taken by H. R. Newhouse, 4630 Prairie Ave., for erecting 160 x 1251-ft., 3-story and base theater, store and apartment building for G. H. Gottschalk & Co., 111 W. Washington St.; cost, $200,000.

Clintonville, Wis.—Reported Hotel Co., organized by A. J. Cupler, Marcus Madel and Jay C. Bossard with $100,000 will erect $60,000 hotel.

Elkhorn, Wis.—Reported sketches completed for 2-story and basement, 22 x 82 ft. brick and stone bank building for State Bank of Elkhorn. C. A. Hooper, pres.; cost $50,000. Bids will be taken in spring.

Milwaukee, Wis.—Reported Nat Stone of Boston Store plans erecting $100,000 building for housing of film exchanges. Building to be of fire-proof construction.

Plans prepared for erecting new Columbia hospital at end of Frederick Ave. near Kenwood Boulevard; first section to cost about $100,000 will be erected this spring.

Stevens Point, Wis.—Reported Whiting Paper Co. plans erecting warehouse to cost $50,000. Worden-Allen Co., engrs., Milwaukee.

Wausau, Wis.—Reported Young Men's Christian Assn. building may be doubled in size; gymnasium to be erected; cost, $50,000.

Whitefish Bay, Wis.—Plans being prepared by Schuchardt & Judell, archts, 428 Jefferson St., for erecting residence for Fred Vogel, Jr., on site of present summer home; cost $75,000.

Cedar Rapids, Ia.—See "Reinforced Concrete."

Glidden, Ia.—Election will be held first week in Feb. to decide erection of consolidated school to cost $75,000. J. I. McNaught, Glidden, Ia.

Maquoeta, Ia.—Reported Postmaster Swigert has received plans for new post office to cost $50,000. Jas. A. Wetmore, supervising archt., Treasury Bldg., Washington, to receive bids.

Sioux City, Ia.—Plans being prepared by Beuttler & Arnold, 609 Security Bldg., for erecting 5-story and basement store and office building for Davidson Realty Co., Davidson Bldg., to cost $125,000.

Plans being prepared by Graham Burnham & Co., 80 E. Jackson Blvd., Chicago, Ill., for erecting 8-story and basement department store for T. S. Martin Co., 515 4th St., Sioux City, to cost $600,000.

Reported Woodbury County will sell bonds in sum or $100,000 for erecting county home. E. E. Hosmer, county aud.

Revised plans will soon be completed by F. E. Colby & Son, 510 Davidson Bldg., for erecting store and office bldg. for Wm. Gorden, Francis Bldg.; cost $50,000.

Reported Trinity Lutheran Church will erect new edifice in spring; cost $80,000. W. Kittleson, director.

Waverly, Ia.—Election will be held Feb. 2 for issuing $135,000 bonds for erecting high school building.

Ada, Minn.—Reported Great Northern Ry. Co. (A. H. Hogeland, ch. engr., St. Paul) will erect new depot here soon; cost $200,000.

Heron Lake, Minn.—Reported Catholic community plans erecting church to cost $55,000.

Long Prairie, Minn.—Reported erection of $60,000 school building has been proposed by school board; citizens approve proposition.

Minneapolis, Minn.—Erection of following buildings contemplated: 3-story brick, steel and reinforced concrete apartment building at 1335 Vine Pl., for American Holding Co., 1123 Plymouth Bldg., cost $75,000; 2-story brick, tile, steel and reinforced concrete business building for McMichael Investment Co., 354 Plymouth Bldg., cost $60,000; 3-story brick, steel and reinforced concrete public garage at 1647-49 Hennepin Ave. for T. H. Fawkes, 1625 Hennepin Ave., cost $50,000; three 3-story brick apartment buildings at 1412 to 1422 Portland Ave., for Wentworth & Griffith, 100 Metropolitan Life Bldg., cost $40,000 each; 9-story brick, steel and reinforced concrete apartment building at 8th St. and Nicollet Ave., for Dayton Co., 7th St. and Nicollet Ave., cost $350,000.

Minneapolis, Minn.—Plans being prepared for erecting 12-story office building on ground adjoining Orpheum Theater; cost, $750,000. H. F. Williams, Mgr. McMichael Investment Co.

Sauk Center, Minn.—Bond issue of $50,000 for erecting light plant carried. J. F. Cooper, village clk.

Willmar, Minn.—Plans were prepared by Tyrie & Chapman, 320 Auditorium Bldg., Minneapolis, for erecting 3-story and basement high school building; cost $50,000.

Alliance, Neb.—Reported Alliance Hotel Co. will remodel Alliance Hotel; cost about $80,000.

★**North Platte, Neb.**—Contract awarded by Union Pacific RR. Co. (R. L. Huntley, ch. engr., Omaha) to James Stewart & Co., Inc., Boltman's Bank Bldg., St. Louis, Mo., for erecting here 264 x 81-ft. passenger station to cost about $125,620.

Omaha, Neb.—Reported Swedish Lutheran Deaconess home to be erected this spring; cost $125,000. P. M. Lindberg, supt.

Omaha, Neb.—Plans are completed and contract will be let in January by Bd. Educ. for erecting Clifton Hill school building; cost, about $119,000.

Plans being prepared by C. D. Coaley, Kansas City for erecting steam and electric bakery, at 12th and Jackson Sts., for U. P. Bakery Co., 30th & Evans Sts.; cost $100,000.

Jamestown, N. D.—State board of control, Bismarck, is asking $155,600 for maintaining and erecting new buildings at state hospital for insane.

Havre, Mont.—Reported Mrs. A. C. Peterson, Chinook, Mont., will erect 5-story, 60 x 140 ft. fireproof hotel to cost $150,000. Contract to be let early in spring.

Missoula, Mont.—Reported Bd. Trustees Missoula Co. High School will call for bids soon for $55,000 addition to school building.

Havre, Mont.—Reported Mrs. Anna C. Peterson, Shinock, will erect 5-story hotel in spring, to cost $150,000.

Helena, Mont.—Reported community house to cost $100,000 will be erected here. Mr. Rheem, secy., reported interested.

Roundup, Mont. — Reported August Schrump will erect business building; cost, $50,000.

Excelsior Springs, Mo.—Plans being prepared for enlarging Elms Hotel, with 2-story addition to entire structure; cost, between $125,000 and $150,000. J. H. White, 707 W. 41st. St., Kansas City, Mo., owner.

El Paso, Tex.—Reported State School of Mines will soon let contracts for erecting school building to cost $250,000.

Lubbock, Tex.—Plans being prepared by Rose & Peterson, Barker Bldg., Kansas City, Kansas, for erecting 100 x 100-ft. hospital; cost, $65,000. Dr. Ponton, Lubbock, owner.

Waco, Tex.—Reported Directors of Huaco Club plan rebuilding club house recently destroyed by fire with loss of $50,000.

Tulsa, Okla.—Plans being prepared by Weary & Alford, 1907 S. Michigan St., Chicago, for erecting 5-story and basement, 90 x 100-ft. bank and office building; cost, $200,000. First Natl. Bank, Second & Main Sts., Tulsa, owner.

Clocis, N. M.—Reported bond issue of $50,000 for erecting school building carried.

Ellensburgh, Wash.—Plans prepared by H. Weatherwax & Son, North Yakima, for erecting $100,000 school building for Washington State Normal School.

Everett, Wash.—Reported School Board will call for bids shortly for erecting addition to Washington School; cost $50,000.

Spokane, Wash.—Reported Northwest Mining Assn. plans erecting coliseum for holding Conventions of Mining Assn. and other organizations, to cost $500,000 to $750,000. A. J. Ross, former president, instructed to have drawings and tentative sketches prepared for submission to body at early date.

Portland, Ore.—See "Reinforced Concrete."

Portland, Ore.—Joseph W. Beveridge, clerk Multnomah Co., reports architect will be selected shortly to prepare plans for erecting county hospital; $100,000 available.

Santa Barbara, Cal.—See "Reinforced Concrete."

BIDS DESIRED

Caribou, Me.—Until Feb. 23, by Jas. A. Wetmore, superv. archt., Washington, D. C., for erecting U. S. post office building; advertised in this issue.

New Haven, Conn.—Until Jan. 31, at office Jas. A. Wetmore, superv, archt., Washington, D. C., for installing 3 electric elevators in U. S. postoffice here.

Waterbury, Conn.—Reported desired until Jan. 29, by Bd. Educ. for erecting high school building. Freney & Jackson, 51 Leavenworth St., archts.

Newark, N. J.—Until Jan. 30, by Committee on Pub. Bldgs., City Hall, for alterations and repairs to Newark City Hospital; separate bids for plumbing, heating, ventilating, etc., plans may be obtained from Conklin & Convery, Wiss Bldg., 665 Broad St., Newark, upon payment of $25; cost about $120,000. A. Archibald, city clk.

Reported desired until Jan. 24 by Bd. Educ. (Edgar A. Brown, pres.), for 3-story and basement addition to public school building. Louis Sontag, archt., city hall.

Trenton, N. J.—Until Feb. 2, by Henry B. Kummel, act. dir. dept. conserv. & devel., for erecting laboratory building; separate bids for plumbing, heating, electrical work and equipping; plans may be obtained from Dept. Charities and Corrections, State House, Trenton.

Rockdale, Pa.—Until Jan. 25, by town for erecting 2-story and basement, 52 x 89 ft., stone school building.

Richmond, Va.—Until Jan. 29, by John Russell Pope, archt., 527 5th Ave., New York City, for erecting 4-story passenger station, 148 x 244 ft., stone, concrete and terra cotta, for Richmond Terminal Co., Richmond.

Augusta, Ga.—Until Jan. 24, by Lawton B. Evans, secy. bd. educ., for erecting girls' high school building. G. Lloyd Preacher, archt., Augusta.

De Land, Fla.—Until March 1, by Jas. A. Wetmore, supervy. archt., treas. dept., Washington, D. C., for erecting U. S. post office building; advertised in this issue.

Miami, Fla.—Until Feb. 26, by Bd. Dirs., Y. M. C. A., for erecting Y. M. C. A. bldg.; alternate bids desired on a 3 and 4 story building, with basement, and an additional story with 84 sleeping rooms. H. Hastings Mundy, archt., 236 12th St.

Until Feb. 1, by W. B. Moore, city clk., for erecting reinforced concrete frame administration, service and colored ward buildings at Miami City Hospital. August Geiger, archt., Miami.

Dayton, O.—Reported desired until Jan. 24, by Trustees Dist. Tuberculosis Hospital (D. Frank Garland, pres.), for erecting tuberculosis hospital building. Howard W. German, archt., Schwind Bldg.; Arthur Giesler, sanitary engr., 1603 Reibold Bldg.

Appleton, Wis.—Until about Jan. 24 (change of date) for erecting 3-story addition to asylum, 44 x 92 ft., to be of brick and tile and reinforced concrete; cost about $55,000. C. H. Williams, Green Bay, archt.

Grantsburg, Wis.—Until Feb. 5, by Joint School Dist. No. 1, town and village (H. A. Anderson, secy), for erecting high school building; separate bids for plumbing, electrical work and fixtures; plans may be obtained from Alban & Prins, archts., 347 Endicott Bldg., St. Paul, upon payment of $10.

Britt, Ia.—Reported desired until Jan. 25, for erecting public library building; plans may be obtained from Frank W. Senneff, pres., certified check for $300 to accompany bid.

Des Moines, Ia.—Until Feb. 20, by A. L. Clinite, secy. Independent school dist., for erecting new school building at 44th St. and College Ave., and an addition to Hubbell school on 42d St.; plans may be obtained from Keffer & Jones, archts.

West Minneapolis (Hopkins P. O.), Minn.—Until Feb. 13, by village Council, for erecting brick and concrete building for carburated water gas apparatus; also for yard connection and valves for operating all necessary machinery constructed according to plans of F. C. Shepard, 16-18 So. 7th St., Minneapolis. E. A. Close, rec.

Sioux Falls, S. D.—Until Feb. 7, by Mayor and Comrs. (Walter C. Layse, city aud.), for erecting 3-story and basement fireproof city hall building; Joseph Schwarz, archt., Sioux Falls; certified check for 3 per cent payable John M. Toohey, city treas., to accompany each bid; plans may be seen at Builders' Exchange, St. Paul, Minn.

Tyndall, S. D.—Until about Feb. 10 for erecting Carnegie library building; cost $60,000. Buettler & Arnold, 609 Security Bldg., Sioux City, Ia., archts.

Beatrice, Neb.—Until about Feb. 1, by Bd. Supervs., Gage Co., for erecting county jail; cost about $50,000. R. W. Grant, archt.

Butte, Mont.—Until March 1, for erecting hotel for Ben Bank Realty Co; cost $75,000. Jesse M. Warren, Butte, archt.

Little Rock, Ark.—Until Feb. 12, by School Bd. (J. H. Bilheimer, secy.), for erecting high school building; certified check for $2,000 to accompany each bid; plans may be obtained from School Bd. upon deposit of $25.

Little Rock, Ark.—Until Feb. 12, by School Bd. (J. H. Bilheimer, secy.), for erecting high school building; check for $2,000 to accompany each bid; plans may be obtained from Theo. M. Sanders, Urquhart Bldg., Little Rock.

Mena, Ark.—Until Feb. 21, by James A. Wetmore, supervy. archt., Washington, D. C., for erecting post office building.

Alva, Okla.—Reported desired until Jan. 25, by Guy M. Lisk, school supt., for erecting and equipping 2-story and basement brick high school building; cost about $68,000; plans may be obtained from Layton & Smith, archts., Oklahoma City, or from clk. of bd.

London, Ont.—Until Jan. 26, by Pub. Util. Comn. (E. V. Buchanan, gen mgr.), for erecting new store and office building.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Frederick, Md.**—Contract awarded David M. Andrew Co., Inc., Mount Vernon Ave. and 26th St., Baltimore, Md., at $76,000, for erecting U. S. post office, work to be completed within 16 months.

★**Carroll, Ia.**—Contract awarded by Bd. Educ. to Read MacDonald, Brewster, Minn., at $70,722, for erecting high school building.

★**Sioux City, Ia.**—General contract awarded B. E. Short, 422 Court St., for erecting St. Vincent's Hospital for Benedictine Sisters (Mother Gertrude, supr.); cost about $150,000. W. L. Steele, archt., 502 United Bank Bldg.

★**St. Joseph, Mo.**—Contract awarded Lawhon Stamey Constr. Co., 215 N. 7th St., for erecting 2-story and basement, 75 x 110 ft. structure for First Christian Church, Rev. Chilton, pastor; cost $100,000. Walter Boschen, archt., Tootle-Lemon Bldg.

★**Orange, Tex.**—Contract awarded by Sabine Supply Co. for erecting 2-story, 100 x 100 ft. brick building, to cost $100,000. C. H. Page & Bro., archts.

Los Angeles, Cal.—See "Reinforced Concrete."

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK

Garoga, N. Y.—Plans being prepared by Morrell Vrooman, 10 N. Main St., Gloversville, for 2000-hp. electric development here on Garoga Creek, work to begin in spring.

Easton, Pa.—Blue Mountain Consolidated Water Co. has engaged Farley Gannett, 204 Locust St., Harrisburg, to prepare plans for constructing dam to form an impounding reservoir of about 300,000,000 gal. in the Kittatiny Mountains north of Easton.

Charleston, S. C.—See "Roads and Paving."

Mobile, Ala.—State Harbor Board has adopted plans of the Terminal Transfer & Storage Co. for development of Heironymus Docks; expenditure about $500,000. City will guarantee the interest on the bonded indebtedness.

Mobile, Ala.—Harrison Bros., foot of Palmetto St., contemplate constructing marine ways with capacity of 1500 tons; cost $75,000.

Columbus, O.—The Hydra Electrical Co., incorporated here with a capital of $1,000,000 for purpose of constructing dam on Shade River; lake formed by dam will wipe out towns of Chester and Keno and extend over parts of Meigs and Athens counties.

Marshall, Minn.—Plans are being prepared by J. G. A. Brahtz, St. Paul, Minn., for constructing 60-ft. pier as extension to reinforced concrete pier on Redwood River; cost, about $10,000.

St. Joseph, Mo.—Contracts about to be awarded by St. Joseph & Grand Island RR. (Ernest Stenger, gen. mgr., Omaha, Neb.), for reconstructing present bridge, including new piers, over Missouri River between states of Missouri and Kansas, with 200 ft. clear channel opening; present bridge being 360 ft. long with less than 100-ft. channel opening; estimated cost, $800,000.

Vancouver, Wash.—Maj. H. C. Jewett, corps engrs., Portland, states that the War Dept. has authorized expenditure of $10,000 for maintenance of jetty in Port here; will be filled with rock to surface of river.

Oakdale, Cal.—Jas. H. Cameroon, 519 California St., San Francisco, and Domingis Roleri, Angels Camp, have made proposition to directors of Oakdale Irrigation Dist., to construct dam on Stanislaus River to store 100,000 acre-ft. of water.

Susanville, Cal.—Secret Valley Land Co., Inc., contemplates constructing two dams, main canal and laterals; cost $10,000. Work to begin probably in March. Harry S. Merritt, 707 Call Bldg., San Francisco, interested.

BIDS DESIRED

Kansas City, Kan.—Until Jan. 31 by Bd. Dir. Kaw Valley Drain Dist. (S. H. McNeil, elec. engr.) Wyandotte Co., 719 Osage Ave., for constructing about 4075 lin ft., new reinforced concrete retaining walls long harbor line for left bank of Kansas River between Central Ave. and E. Kansas Ave. Bridge. S. H. McNeil, ch. engr.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Providence, R. I.**—Contract awarded by Providence Water Supply Bd. (W. B. Chafee, secy.) to E. W. Foley Contr. Corp., 71 Wall St., New York City, at $133,490, for diverting north branch of Pawtuxet River, constructing concrete conduit to facilitate subsequent construction of dam and reservoir. (Bids opened Jan. 3.) For detail of bids see Jan. 13 issue.

★**Philadelphia, Pa.**—Contract awarded by Dept. Wharves, Docks & Ferries (Jos. F. Hasskarl, asst. dir.), 552 Bourse Bldg., to Snare & Triest Co., Woolworth Bldg., New York City, at $350,000, for constructing pier 100 x 700 ft. at foot of Cherry St. For detail of bids see Dec. 30 issue.

★**Jacksonville, Fla.**—Contract awarded to F. W. Long & Co., Jacksonville, for constructing 5164 ft. concrete sea wall for Commodore Point Terminal Co.

Artesia, Cal.—Only bid submitted for constructing 14,000 lin. ft. earth levee along San Gabriel River of about 42,000 cu. yd. of excav. was that of H. W. Hawley, Los Angeles Rock & Gravel Co., Los Angeles, at 29 cts. per cu. yd.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK

Trenton, N. J.—Congress has voted extra appropriation of $95,000 for continuation of a 35-ft. channel in Delaware River, and $45,000 for channel in lower Delaware below this city. John W. Thompson, Broad St. Bank Bldg., engr.

Charleston, S. C.—Congress recommends upon estimates made by engineers of War Dept. improvements to Ashley River, to include widening channel to 300 ft. and depth of 24 ft. maintained up to the Standard Fertilizer Works, above city limits; one-half of improvement, which will be $20,000, to be borne by firms of city and $10,000 annually for maintenance in recommendation.

Jacksonville, Fla.—Everglade drainage bonds for $3,500,000 have been sold; same to be used for extending drainage work now being done by state. Address State Engr., Tallahassee.

Carlton, Minn.—County sold $41,500 bonds for constructing drainage system.

Crookston, Minn.—County contemplates constructing next summer drainage ditch No. 109 to consist of two drainage ditches and 14 branches to empty into Lost River; cost, about $30,000.

Faribault, Minn.—County contemplates constructing Judicial Ditches Nos. 70, 72 and 74 at total cost of $40,962. H. C. Nolte, co. aud.

Morris, Minn.—Bonds for $45,375 have been sold for constructing county ditches Nos. 27 and 29 and Judicial Ditch No. 2. C. R. Wollthan, co. aud.

Wilmar, Minn.—County contemplates constructing Ditch No. 33; cost $360,000. Sam'l Nelson, co. aud.

Madison, S. D.—Contract will be let about April 1 by Co. Comrs. for 250,000 cu. yd. ditch excav. and 50 miles drain tile 6 to 30 in. Chas. A. Trimmer, co. surv.

Centralia, Wash.—R. W. Rea, 403 E. 16th St. N., Portland, Ore., reports that proposed irrigation of Grand Mound Prairie, consisting of 5000 acres, is feasible; estimated cost $125,000.

Chowchilla, Cal.—Board Supvrs. have approved the formation of the Chowchilla drainage dist., embracing about 88,000 acres of swamp lands; cost about $150,000.

El Centro, Cal.—Bonds for $150,000 will be voted by Imperial Irrig. Dist. (C. R. Rockwood, ch. engr.) for improvement to irrigation system.

Mojave, Cal.—Valley Land & Improvement Co., incorporated with capital of $500,000 to develop water and irrigate large tract of land in Oak Creek country, near here. Jas. Arp, C. H. Quincy of Bakersfield among directors.

Paradise, Cal.—Election to be held Feb. 7 to vote on $350,000 bonds for constructing irrigation system, to consist of steel pipe line distribution system, storage reservoir of 8000 acre ft. capacity. C. M. Burket, pres. bd. dirs. I. E. Goodner, engr.

San Diego, Cal.—Election to be held Feb. 21 by city to vote $682,200 bonds for reconstructing Lower Otay dam, of arch gravity cyclopean type, 750 ft. long, 137 ft. high from stream bed to overflow section, 145 ft. to non-overflow section, 15 ft. wide at crest, volume of about 86,000 cu. yd., capacity of about 15,000,000,000 gals. M. M. O'Shaughnessy, city engr., San Francisco, consulting engr. Geo. Cromwell, city engr.

Harrison, Idaho.—Marian A. Kiger, Harrison, representative of Kootenai Company, is acting attorney for preliminary work for organization of Drainage Dist. of Coeur d'Alene and St. Joe valleys, involving about 30,000 acres; cost $150,000.

BIDS DESIRED

New York, N. Y.—Until Jan. 24, by R. A. C. Smith, comr. docks, Pier "A," ft. Battery Pl., North River, for contract No. 1556, dredging in Manhattan, Brooklyn, Queens, Bronx and Richmond Boros.; work includes about 140,000 cu. yd. dredging; cost about $11,900.

New York, N. Y.—Until Jan. 29, by R. A. C. Smith, comr. docks, Pier "A," foot Battery Pl., North River, for Contract No. 1545, for dredging slip west side of Pier No. 2, East River, foot Dover St.; security, $3,600.

Syracuse, N. Y.—Until about Feb. 1, for improving Creek Channel, 2 mi. in length, 50 ft. wide and 12 ft. deep, lined with concrete; also extending main intercepting sewer 1¼ mi. in length, 20 in., 24 in. and 27-in.; Glenn D. Holmes, ch. engr. intercepting sewer bd., Room 104 City Hall, Syracuse.

Plymouth, Ind.—Reported desired until Feb. 3, by Arthur W. Thomson, constr. comr., for constructing Philemon Phillips Ditch in Marshall Co., including main ditch and small lateral; work includes about 14,770 ft. of 10 to 18-in. tile catch basins, 6542 cu. yd. excavation and back fill for tile portion of ditch; 2 retaining walls, 4365 cu. yd. excavation from open ditch; 3 miles average haul for materials in main ditch; total cost, about $10,345.

Buffalo, Minn.—Until Feb. 2, by John A. Berg, co. aud., for constructing Judicial Ditch No. 4, of Wright, Carver and McLeod Cos., work includes about 119,210 cu. yd. excavation; cost about $15,135.

Granite Falls, Minn.—Reported desired until Jan. 27, by Yellow Medicine Co. (G. H. Wilson, co. aud.), for constructing Judicial Ditch No. 4; work includes about 51,936 ft. from 6 to 26-in. tile; cost about $21,997.

St. Peter, Minn.—Until Feb. 5, by W. H. Holz, co. aud., for constructing County Ditch No. 65; work includes 8.06 miles tile from 6 to 28 in., 3000 lin ft. grubbing, 1 reinforced concrete headwall cost about $16,000; also for constructing Co. Ditch No. 62, work includes 0.93 mi. open ditch with 6-ft. bottom, 3 to 4 ft. cut; 10.33 mi. tile from 6 to 26 in.; 3 reinforced concrete headwalls; cost about $26,352.

Pine Bluff, Ark.—Until Jan. 31, by Comrs. Drain. Dist. No. 6 (Dan W. Nicks, chmn.) for constructing about 4½ miles drainage canals, 20, 14 and 12 ft. bottom widths, at office of Humphreys & Tovey, engrs., Pine Bluff; certified check for $500 to accompany each bid.

Donna, Tex.—Reported desired until Jan. 27, by Irrigation Dist. No. 1 (G. B. Meriwether, pres.), for constructing reservoir for irrigation system; work includes 60,500 cu. yd. earthwork, 72 cu. yd. concrete (gates and check gates), 21 acres clearing and grubbing, and other irrigation work; plans may be obtained from engr. upon payment of $5.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**New York, N. Y.**—Previous report of bids opened Nov. 24 for dredging Hudson River an error. Contract awarded by U. S. Engrs., Army Bldg., New York City, to Eugene Breymann, Toledo, O., at $37,562. Following bid opened Jan 12 by R. A. C. Smith, dock comr., Pier A, foot of Battery Pl., for dredging about 18,000 cu. yd. west side of Pier No. 21: P. Sanford Ross, Inc., 277 Washington St., Jersey City, N. J., at 63.7 cts. per cu. yd.

Philadelphia, Pa.—Following are bids opened Jan. 15 by Maj. J. C. Oakes, corps. engrs. U. S. A., Philadelphia, for dredging and rock excav. on Tinicum, Chester and Marcus Hook ranges, Delaware River, below Philadelphia: (a) dredging approximately 10,270 cu. yd. place measurement; (b) excav. about 3830 cu. yd. rock, place measurement: Maryland Dredg. & Constr. Co., Baltimore, Md., (a) 60 cts., (b) 14.95 cts.; Bowers Southern Dredg. Co., Galveston, Tex., (a) 60 cts., (b) 15.45 ct.; Great Lakes Dredge & Dock Co., 17 Battery Pl., New York City, (a) 61 cts., (b) 15.75 cts.; Canal Constr. Co., Inc., 150 Nassau St., New York City, (a) 67 cts., (b) 17.40 cts. Price given per cu. yd.

★**Statesville, N. C.**—Contract awarded to Mart P. Moore, Salisbury, N. C., at 6 cts. per cu. yd. for 11 miles of ditches, to consist of 360,000 cu. yd. excav., 1150 acres to be reclaimed. W. D. Alexander, Charlotte, N. C., engr.

Wilmington, Del.—Following bids opened Dec. 29, by U. S. Engrs., for excavation between Rehoboth Bay and Delaware Bay (Lewes, Del.): Dorsey & Miller Co., 420 Equitable Bldg., Baltimore, Md., 24½ cts. per cu. yd., place measurement; Richards Dredg. Co., 809 Real Estate Trust Bldg., Philadelphia, Pa., 22 cts. per cu. yd., place measurement.

★**Blue Earth, Minn.**—Contract awarded Jan. 12, by Jesse L. Herring, co. aud., for constructing following ditches: County Ditch No. 52, Elmore Cement & Tile Co., Elmore, at $26,266, for all tile work; County Ditch No. 44, open work, Matthews Bros., Erie, Ill., $16,154; A. W. Dunlap, Mason City, tile work, $50,657; Judicial Ditch No. 14, Northwestern Drainage Co., Grand Rapids, Wis., $64,750; Judicial Ditch No. 13 (five separate contracts), Cont. No. 1, open work, W. A. D'Arcy, Dayton, O., $21,296; Cont. No. 2, open work, $30,139; Cont. No. 3, open work, Goodrich & Gray, Royal Center, Ia., $16,686; Cont. No. 4, tile work, Jene Jacobsen, Humboldt, Ia., $55,525; Cont. No. 5, tile work, A. E. Adams, Algonia, Ia., $68,000.

Monticello, Mo.—Following are four lowest bids opened Jan. 10 by Bd. Co. Supervs. North Fabius River Drainage Dist., at office of Thos. I. Johnson, Monticello, for constructing channel requiring about 540,000 cu. yd. excav.: Hez. H. Johnson, Kohoka, Mo., 8.3 cts. (recommended for award), Sternberg Bros., St. Louis, Mo., 8.85 cts.; C. L. Cook, Pekin, Ill., 9 cts; Claude A. Walb, La Grange, Ind., 9.1 cts.; price given, per cu. yd.

★**Denver, Colo.**—Contract awarded by the Victor American Fuel Co., to Henry Hullender, Denver, for drilling a 900-ft. tunnel for new entrance to the Pinnacle mine in Routt County.

TUNNELS AND SUBWAYS

PROPOSED WORK

Cleveland, O.—City Planning Comn., Floyd E. Waite, of the service dept. New City Hall, secy., will probably retain experts to advise on construction of downtown passenger subways.

MISCELLANEOUS

PROPOSED WORK

Transmission Line—Binghamton, N. Y.—Electric transmission line 5 mile long to connect new plant and sub-station of the Binghamton Light, Heat & Power Co. contemplated.

Transmission Line—Long Beach, N. Y.—Long Beach Power Co. has applied to Pub. Serv. Comn. for erecting transmission lines on property of Long Beach estate and the Lido Corporation.

Playgrounds—Dover, N. J.—City contemplates establishing playground on eight-acre tract along the Lackawanna Railroad. H. A. Davidson, secy. Bd. Trade.

Parks—Paterson, N. J.—City contemplates selling $36,000 bonds for acquiring lands for park purposes. John J. Brophy, clk. bd. finance.

Transmission Line—White Hall, Pa.—Lehigh Navigation Co., Hauto, contemplates constructing new transmission line here.

Transmission Line—Dorchester, Va.—Old Dominion Power Co. (D. Terpstra, pres., gen. mgr., Dorchester) contemplates constructing 50-mile 22,000-volt transmission line to furnish electricity to Morton, Wise, Coeburn and Glamorgan, together with other improvements.

Transmission Line—Gladstone, Mich.—Bd. Fire & Water Comrs. contemplate erecting 5-mile, 6600-volt transmission line and installing electrically driven pumps of 100,000-gal. capacity. J. R. Mackin, supt. municipal elec. and water systems.

Transmission Line—Green Bay, Wis.—Wisconsin Pub. Serv. Co. contemplates reconstructing 7-mile transmission line of the Manitowoc & Northern Traction Co., between Manitowoc and Two Rivers, for power purposes.

Park Improvements—Houston, Tex.—City contemplates improving Settegart Park; cost, about $18,000. E. E. Sands, city engr.

Swimming Pool—Modesto, Cal.—City contemplates constructing swimming pool; cost, $10,000.

Rip-rap—San Diego, Cal.—Plans prepared by Geo. Cromwell, city engr., for 115 ft. of rip-rap and bulkhead at intake of San Diego Electric Ry. Co.'s plant at foot of E. St., and 80 ft. of rip-rap where the temporary bulkhead has gone out; probable cost $14,000.

Swimming Pool—Ottawa, Ont. — City voted $75,000 bonds for constructing swimming pool. N. H. Lett, city clk.

BIDS DESIRED

Sand, Cement, Eetc.—New York, N. Y.—See "Roads and Paving."

Boilers—Allentown, Pa.—Until Jan. 30, by A. L. Reichenbach, mayor, 39 N. 7th St., for furnishing and installing two 400-hp. boilers in pumping station; advertised in this issue.

Lock Gate Machinery—Pittsburgh, Pa.—Until Feb. 14, at U. S. Engrs. office, for furnishing and delivering lock gate operating machinery for Lock 2, Monongahela River; advertised in this issue.

Garbage Disposal—Swissvale, Pa.—Until Feb. 6, by H. D. Caldwell, secy. Council, Municipal Bldg., Rolyn St. and Braddock Ave., for collection and disposal of garbage for year starting March 1, 1917; bids to be made for period of 1, 2, 3 and 5 years respectively.

Binder and Road Oil—Staunton, Va.—Until Jan. 25, by John Crosby, clk. bd. supervs., Co. Court House, for furnishing binder and road oils for season 1917; binder must be delivered in packages freight prepaid, C. & O. and B. & O., delivery as ordered, 30,000 gal. to be delivered during months Feb. and March, balance as ordered during rest of season; binder must conform to U. S. Gov. specifications .051; quantity up to 100,000 gal.; road oil to be applied hot up to 50,000 gal. to conform to U. S. Gov. specifications 0.49; and 150,000 gal. road oil (cold U. S. Gov. specifications, 0.50, to be delivered in tank cars, freight prepaid to any station in Augusta Co.

Broken Rock, Gravel—Evansville, Ind.—Until Jan. 25, by Bd. Co. Comrs., for furnishing broken rock and gravel for repair of various free turnpikes in county. C. P. Beard, co. aud.

Portland Cement—Kalamazoo, Mich.—Until Jan. 22, by C. L. Miller, city clk., for 5000 bbl. Portland cement; advertised in this issue.

Culvert Pipes—Forest City, Ia.—Until Jan. 29, by Bd. Supervs., Winnebago Co., for furnishing corrugated culvert pipe for following sizes, 2520 ft. from 12 to 19-in. corrugated pipe; maximum 3940; certified check for 10 per cent to accompany each bid.

Metal Culverts—Livingston, Mont.—Reported desired until Feb. 7 for furnishing 2 carloads 12 to 36-in. metal culverts. Chas. A. Burg, co. clk.

Garbage Incinerator, etc., Panama.—Until Jan. 29, by Earl I. Brown, major, corps eng. U. S. Army, gen. purch. officer, Panama Canal, Washington, D. C, for circ. No. 1113 steel, iron, steel pipe, garbage and refuse incinerator, etc.; information may be obtained at office Asst. Purch. Agt., 24 State St., New York City.

PRICES AND LETTINGS

★*Indicates award of contract.*

Hoists—Albany, N. Y.—Following are bids opened Jan. 9 by W. W. Wotherspoon, state supt. pub. wks., for furnishing and installing 7 hoists for operation of bulkhead gates in north end of Vichers Ferry Dam: Lupfer & Remick, Buffalo, $11,586; E. Brown Baker, Herkimer, $13,855; G. C. Hodgson, Fulton, $17,500; engineer's estimate $9,998.

Groins—New York, N. Y.—No bids opened Dec. 28, by U. S. Engrs., Army Bldg., New York City, for constructing timber groins and repair of sea wall near Sandy Hook reservation.

★**Car Dumping Machinery—Jersey City, N. J.**—Contract awarded by Central RR. of N. J. (A. E. Owen, ch. engr., 143 Liberty St., New York, N. Y.) to McMyler Interstate Co., 50 Church St., New York City, for car-dumping machinery for Pier 18, at $149,400.

Swimming Pool—Philadelphia, Pa.—Contract awarded F. G. Stewart, 1619 Sansom St., at $29,078, for constructing swimming pool of concrete and tile at Kingsessing Recreation Center.

★**Cement—Detroit, Mich.**—Following are four lowest bids opened by Bd. Co. Road Comrs. (E. G. Rice, secy.), for cement for year 1917; requirements, 60,000 to 80,000 bbl.: Wolverine Portland Cement Co., Coldwater, $2.05 (awarded contract); Universal Portland Cement Co., 210 S. La Salle St., Chicago, Ill., $2.05; Peninsular Portland Cement Co., Jackson, Mich., $2.08; Huron Portland Cement Co., Detroit, and Peerless Portland Cement Co., Union City, both bid $2.12. Price given, per bbl.

Core-Borings—San Francisco, Cal.—International Diamond Drill Co. was only bidder at $14,015 for core-borings at Hetchy-Hetchy dam site.

Proposals

For Proposals Advertised See Pages 54-55-56.

WATER WORKS AND SEWERAGE SYSTEMS

Bids Close.		See Eng. Record.
Jan. 23.	Dows, Ia.	Jan. 6
Jan. 23.	Lewiston, Pa.	Jan. 20
Jan. 24.	Hanover, Pa.	Jan. 13
Jan. 24.	Cincinnati, O.	Jan. 20
Jan. 24.	Brooklyn, N. Y.	Jan. 20
Jan. 25.	Spirit Lake, Ia. Adv. Jan. 13, 20.	Jan. 13
Jan. 25.	Sidney, O.	Jan. 20
Jan. 26.	Cincinnati, O.	Jan. 20
Jan. 26.	Dayton, O.	Jan. 20
Jan. 28.	Pineville, Ky.	Jan. 13
Jan. 29.	Kalamazoo, Mich. Adv. Jan. 20.	Jan. 20
Jan. 30.	Whitewater, Wis.	Jan. 20
Jan. 31.	Springfield, Ohio	Jan. 20
Feb. 1.	Mt. Morris, N. Y.	Jan. 20
Feb. 1.	Milwaukee, Wis. Adv. Jan. 20.	Jan. 20
Feb. 2.	West Union, Ia.	Jan. 20
Feb. 5.	Rockwell City, Ia.	Dec. 9
Feb. 5.	St. Paul, Minn. Adv. Dec. 23.	Dec. 23
Feb. 5.	Winnipeg, Man. Adv. Jan. 20.	Jan. 20
Feb. 5.	Springfield, Ill.	Jan. 20
Feb. 6.	Flint, Mich. Adv. Jan. 13, 20.	Jan. 13
Feb. 7.	Savannah, Ga.	Jan. 20
Feb. 7.	Coeburn, Va.	Jan. 20
Feb. 20.	Ft. H. G. Wright, N. Y. Adv. Jan. 20.	Jan. 20
Mar. 1.	Springfield, Ill.	Jan. 13
Mar. 6.	Chilton, Wis.	Dec. 2
Apr. 1.	Gibson, Ill.	Dec. 23
Apr. 1.	Mt. Vernon, O.	Dec. 23
Jun. 1.	Calcutta, India	Dec. 23
———	Douglas, Wyo. Adv. Dec. 16.	Dec. 23

STRUCTURAL STEEL WORK

Jan. 23.	Pittsburgh, Pa.	Jan. 20
Jan. 29.	Ada, Minn.	Jan. 13
Jan. 29.	Wadena, Minn.	Jan. 13
Jan. 30.	Baker, Ore.	Jan. 20
Feb. 1.	Bucyrus, O.	Jan. 6
Feb. 1.	Galion, O.	Jan. 6
Feb. 5.	Schuyler, Neb.	Jan. 13
Feb. 6.	Philadelphia, Pa. Adv. Jan. 13, 20.	Jan. 13
Feb. 6.	Wayne, Neb.	Jan. 13
Feb. 6.	Covington, Ga.	Jan. 20
Feb. 7.	Philadelphia, Pa. Adv. Jan. 13, 20.	Jan. 13
Feb. 8.	Stockton, Cal.	Jan. 20
Feb. 12.	Cristobal, C. Z. Adv. Jan. 20.	Jan. 20
Feb. 13.	East Dubuque, Ill.	Jan. 20
Feb. 14.	White Plains, N. Y.	Jan. 20

REINFORCED CONCRETE

Jan. 23.	Kansas City, Mo.	Jan. 13
Jan. 25.	Norristown, Pa. Adv. Jan. 13, 20.	Jan. 13
Jan. 26.	Earlington, Ky.	Jan. 13
Jan. 27.	Hemphill, Ky.	Jan. 13
Jan. 29.	Seeley, Cal.	Jan. 13
Jan. 30.	Nashville, Tenn. Adv. Jan. 6, 13, 20.	Jan. 6
Jan. 30.	Baltimore, Md. Adv. Jan. 20.	Jan. 20
Feb. 1.	Pontiac, Ill.	Jan. 20
Feb. 6.	Lewisburg, W. Va. Adv. Jan. 13, 20.	Jan. 13
Feb. 12.	Wayne, Neb.	Jan. 13

ROADS AND PAVING

Jan. 23.	New York, N. Y.	Jan. 20
Jan. 23.	Maryland	Jan. 20
Jan. 24.	Pikeville, Ky.	Jan. 6
Jan. 24.	Brooklyn, N. Y.	Jan 20
Jan. 24.	Gillespie, Ill.	Jan. 20
Jan. 24.	Louisville, Ky.	Jan. 20
Jan. 25.	Lake Charles, La.	Jan. 6
Jan. 25.	Norton, Va.	Jan. 6
Jan. 25.	Spirit Lake, Ia. Adv. Jan. 13, 20.	Jan. 13
Jan. 25.	New York, N. Y.	Jan. 20
Jan. 25.	Cincinnati, O.	Jan. 20
Jan. 26.	Salyersville, Ky.	Jan. 6
Jan. 26.	Gallipolis, O.	Jan. 13
Jan. 26.	Clintwood, Va.	Jan. 13
Jan. 26.	New York, N. Y.	Jan. 20
Jan. 28.	Earlington, Ky.	Jan. 13
Jan. 29.	Hindman, Ky.	Jan. 6
Jan. 29.	Gainesville, Fla.	Jan. 6
Jan. 29.	Frenchburg, Ky.	Jan. 13
Jan. 29.	Lebanon, Ind.	Jan. 13
Jan. 29.	Indiana	Jan. 20
Jan. 31.	Ravenna, O.	Jan. 6
Jan. 31.	Jacksonville, Fla.	Jan. 13
Jan. 31.	Wise, Va.	Jan. 13
Jan. 31.	Springfield, Ohio	Jan. 20
Feb. 1.	Appalachia, Va.	Jan. 6
Feb. 1.	Cedar Rapids, Ia.	Nov. 18
Feb. 1.	Cicero, Ill.	Dec. 30
Feb. 1.	Zeeland, Mich.	Jan. 13
Feb. 1.	Gowanda, N. Y.	Jan. 20
Feb. 1.	Lincoln, Ill.	Jan. 20
Feb. 1.	Flatbrookville, N. J. Adv. Jan. 20.	Jan. 20
Feb. 1.	De Queen, Ark.	Jan. 20
Feb. 1.	Indiana	Jan. 20
Feb. 2.	Olive Hill, Ky.	Jan. 20
Feb. 3.	Belvidere, N. J.	Jan. 20
Feb. 4.	Mt. Vernon, Tex.	Jan. 13
Feb. 5.	Montevideo, Minn.	Jan. 13
Feb. 5.	Indiana	Jan. 20
Feb. 5.	Springfield, Ill.	Jan. 20
Feb. 6.	Neshanic, N. J.	Dec. 30
Feb. 6.	Mt. Olivet, Ky.	Jan. 13
Feb. 6.	Hillsboro, N. J.	Jan. 13
Feb. 6.	Inez, Ky.	Jan. 20
Feb. 6.	Grayson, Ky.	Jan. 20
Feb. 6.	Sheridan, Wyo.	Jan. 20
Feb. 6.	Indiana	Jan. 20
Feb. 8.	Columbia, Ky.	Jan. 20
Feb. 12.	Irvine, Ky.	Jan. 6
Feb. 12.	Georgetown, Ky.	Jan. 20
Feb. 12.	Camden, N. J.	Jan. 20
Feb. 13.	Jamestown, Ky.	Jan. 20
Feb. 13.	Albany, Ky.	Jan. 20
Feb. 14.	Charleston, W. Va.	Jan. 20
Feb. 19.	Stockton, Cal.	Jan. 20
Feb. 22.	Grundy, Va.	Jan. 20
Mar. 1.	Manchester, Conn.	Jan. 20
Mar. 18.	Kent, O.	Dec. 30
Mar. 30.	Canton, Ill.	Jan. 20
Apr. 1.	Virginia, Ill.	Jan. 13

INDUSTRIAL PLANTS AND WAREHOUSES

Feb. 1.	Glasgow, Ky.	Jan. 13
Feb. 5.	Vallejo, Cal.	Jan. 6
Feb. 5.	Philadelphia, Pa.	Jan. 20
Feb. 16.	Seattle, Wash.	Jan. 13

BUILDINGS
Public and Private

Jan. 23.	Charlestown, W. Va.	Jan. 6
Jan. 23.	Hartford, Conn.	Jan. 13
Jan. 23.	Lakewood, O.	Jan. 13
Jan. 24.	Minot, N. D.	Jan. 6
Jan. 24.	Appleton, Wis.	Jan. 20
Jan. 24.	Augusta, Ga.	Jan. 20
Jan. 24.	Dayton, O.	Jan. 20
Jan. 24.	Newark, N. J.	Jan. 20
Jan. 25.	Alva, Okla.	Jan. 20
Jan. 25.	Britt, Ia.	Jan. 20
Jan. 25.	Rockdale, Pa.	Jan. 20
Jan. 26.	Waterloo, N. Y.	Dec. 30
Jan. 26.	London, Ont.	Jan. 20
Jan. 27.	Jacksonville, Fla.	Jan. 6
Jan. 29.	Philadelphia, Pa.	Jan. 13
Jan. 29.	Richmond, Va.	Jan. 20
Jan. 29.	Waterbury, Con.	Jan. 30
Jan. 31.	New Haven, Conn.	Jan. 20
Feb. 1.	Peoria, Ill.	Jan. 6
Feb. 1.	Chehalis, Wash.	Dec. 16
Feb. 1.	Shell Lake, Wis.	Jan. 13
Feb. 1.	Omaha, Neb.	Jan. 13
Feb. 1.	Terre Haute, Ind.	Jan. 13
Feb. 1.	Miami, Fla.	Jan. 20
Feb. 2.	Carey, O.	Jan. 20
Feb. 2.	Trenton, N. J.	Jan. 20
Feb. 5.	Isabel, Tex.	Jan. 13
Feb. 5.	Albany, N. Y. Adv. Jan. 13, 20.	Jan. 13
Feb. 5.	Sioux City, Ia.	Jan. 13
Feb. 5.	Grantsburg, Wis.	Jan. 20
Feb. 6.	Athens, Ga.	Jan. 13
Feb. 7.	Sioux Falls, S. D.	Jan. 20
Feb. 10.	Tyndall, S. D.	Jan. 20
Feb. 12.	Moultrie, Ga.	Jan. 6
Feb. 12.	Winnipeg, Man.	Jan. 13
Feb. 12.	Little Rock, Ark.	Jan. 20
Feb. 13.	Industry, N. Y. Adv. Jan. 13.	Jan. 13
Feb. 13.	Detroit, Mich.	Jan. 13
Feb. 13.	West Minneapolis (P. O. Hopkins), O.	Jan. 20
Feb. 14.	Ripley, W. Va.	Jan. 13
Feb. 14.	Morgantown, W. Va.	Jan. 6
Feb. 15.	Escanaba, Mich.	Dec. 30
Feb. 16.	McComb, Miss.	Jan. 6
Feb. 19.	Barnesville, Ga.	Jan. 6
Feb. 20.	Des Moines, Ia.	Jan. 20
Feb. 21.	Mena, Ark.	Jan. 30
Feb. 23.	Caribou, Me. Adv. Jan. 20.	Jan. 20
Feb. 26.	Miami, Fla.	Jan. 30
Mar. 1.	Rochester, Minn.	Jan. 6
Mar. 1.	Butte, Mont.	Jan. 20
Mar. 1.	De Land, Fla. Adv. Jan. 20.	Jan. 20
May 1.	Minneapolis, Minn.	Nov. 25

FOUNDATIONS, PIERS AND DAMS

Jan. 24.	Port Aransas, Tex. Adv. Dec. 30 to Jan. 20.	Dec. 30
Jan. 24.	New Orleans, La.	Dec. 30
Jan. 29.	Philadelphia, Pa.	Dec. 23
Jan. 31.	Kansas City, Kan.	Jan. 20
Feb. 10.	Louisville, Ky. Adv. Jan. 13, 20.	Jan. 13

EXCAVATION, DREDGING AND DRAINAGE

Jan. 23.	Rockwell City, Ia.	Dec. 23
Jan. 23.	Deerfield, Kan.	Jan. 13
Jan. 24.	New York, N. Y.	Jan. 30
Jan. 25.	Crookston, Minn.	Dec. 16
Jan. 27.	Auburn, Ind.	Jan. 13
Jan. 27.	Donna, Tex.	Jan. 30
Jan. 27.	Granite Falls, Minn.	Jan. 20
Jan. 29.	New Ulm, Minn.	Jan. 13
Jan. 29.	Norfolk, Va. Adv. Dec. 30 to Jan. 20.	Dec. 30
Jan. 31.	Pine Bluff, Ark.	Jan. 20
Feb. 1.	Coalinga, Cal.	Dec. 23
Feb. 2.	Buffalo, Minn.	Jan. 20
Feb. 3.	Plymouth, Ind.	Jan. 20
Feb. 5.	Savannah, Ga. Adv. Jan. 13, 20.	Jan. 13
Feb. 5.	St. Peter, Minn.	Jan. 20
Feb. 8.	New York, N. Y. Adv. Jan. 13, 20.	Jan. 13
Mar. 7.	Alexandria, La.	Jan. 13

TUNNELS AND SUBWAYS

Feb. 6.	Philadelphia, Pa. Adv. Jan. 6, 13.	Jan. 6

MISCELLANEOUS

Jan. 23.	Fire Escapes, East Moline, Ill.	Jan. 13
Jan. 22.	Cement, Kalamazoo, Mich. Adv. Jan. 20.	Jan. 20
Jan. 25.	Lift, Salt Lake City, Utah.	Jan. 6
Jan. 25.	Binder Road Oil, Staunton, Va.	Jan. 30
Jan. 25.	Broken Stone, etc., Evansville, Ind.	Jan. 20
Jan. 29.	Garbage Incinerator, Panama	Jan. 30
Jan. 29.	Culvert pipe, Forest City, Ia.	Jan. 20
Jan. 30.	Motors, Summerland, Cal. Adv. Jan. 13.	Jan. 13
Jan. 30.	Air Blowers, Summerland, Cal. Adv. Jan. 13.	Jan. 13
Jan. 30.	Boilers, Allentown, Pa. Adv. Jan. 20.	Jan. 20
Feb. 5.	Pine Piles, Philadelphia, Pa. Adv. Jan. 13, 20.	Jan. 13
Feb. 6.	Swissvale, Pa.	Jan. 20
Feb. 7.	Metal Culverts, Livingston, Mont.	Jan. 20
Feb. 14.	Lock Gate Machinery, Pittsburgh, Pa. Adv. Jan. 20.	Jan. 20
Feb. 19.	Air Compressors, Air Locks, Etc., New Orleans, La. Adv. Jan. 13, 20.	Jan. 13

SEARCHLIGHT SECTION

Bids open February 1, 1917.

SEWER EXTENSIONS

OFFICIAL NOTICE NO. 23.

MILWAUKEE, WIS.

Published by authority of the Sewerage Commission of the City of Milwaukee.

Sealed proposals for the construction of extensions to the Intercepting Sewer System of the City of Milwaukee, Wisconsin, will be received by the Sewerage Commission of said city at its offices in the City Hall until 2:00 P. M., the 1st day of February, A. D. 1917, at which time and place during the session of the said Commission the proposals will be publicly opened and read.

The work to be done embraces the building of the following work:

One 30 in. Iverted Siphon of cast iron pipe, about 278 ft. in length, to be built under the Kinnickinnic River, together with two shafts, including valve and sluice gate, cast iron pipe and specials, and other appurtenances.

1536 lin. ft. of 60 in. Concrete Sewer.
6436 lin. ft. of 48 in. Concrete Sewer.
5598 lin. ft. of 42 in. Concrete Sewer.
78 lin. ft. of 30 in. Concrete Sewer.
2729 lin. ft. of 18 in. Terra Cotta Pipe Sewer.
633 lin. ft. of 12 in. Terra Cotta Pipe Sewer.

Together with all manholes and other appurtenances.

The time allowed for the completion of this contract shall be eighteen (18) months from the date of the Engineer's notice to begin work.

The liquidated damages for not completing the work within the time above stated shall, for each day in excess thereof, be an amount equal to one-half of one percentum of the aggregate cost of the work embraced in the contract.

Each proposal submitted must be accompanied by a cash deposit of, or, in lieu thereof, by a certified check drawn upon a National or State bank or Trust Company, and to the order of the "Sewerage Commission of the City of Milwaukee" to the amount of Sixty Thousand Dollars ($60,000.00).

All cash deposits or certified checks deposited by bidders to whom the contract is not awarded will be returned upon application to the Secretary of the Sewerage Commission after the contract has been awarded, or after the rejection of all bids. The cash deposit or certified check which has been deposited by the successful bidder will be returned to him as soon as the contract is properly executed and approved by the City Attorney and Sewerage Commission.

Specifications and blank forms of proposals can be obtained, and detailed plans examined, at the office of the Sewerage Commission in the City Hall and a full set of plans will be sent to any contractor upon receipt of five dollars ($5.00). This sum to be returned upon surrender of the plans in good condition.

The Sewerage Commission of the City of Milwaukee reserves the right to reject any and all bids submitted.

JOHN H. FOWLES,
Secretary.

Countersigned:

A. P. PUELICHER,
Deputy Comptroller.

Official Proposals

Price, $2.40 an inch—Copy can be received until Wednesday, 5 p. m. for issue mailed the next day

Bids open February 7, 1917.

TO SEWER CONTRACTORS.

STORM WATER SEWER

SAVANNAH, GA.

Sealed proposals on blank forms furnished by the city and addressed to "The Mayor and Aldermen of the City of Savannah, Georgia" will be received until 12 o'clock noon, Eastern time, February 7, 1917, for furnishing all material and labor for the construction of a storm water sewer for the City of Savannah, Georgia, as per plans and specifications adopted by the city.

This work will consist of approximately 1370 feet of reinforced concrete box sewer.

The bid must be accompanied by a certified check for two and one-half per cent of the total amount of the bid, made payable to "The Mayor and Aldermen of the City of Savannah." Said check must be submitted with bid.

Plans, specifications, profiles, cross sections and other data are on file for inspection at the Chief Engineer's office, E. R Conant, Chief Engineer. Specifications can be obtained upon application to the Clerk of Council.

The right is reserved to reject any or all bids and to waive any informalities in the bids.

If a complete set of profiles, plans and sections are desired, such may be obtained upon application to the Clerk of Council, at a cost of five ($5.00) dollars. It is understood that this is not a deposit for same but a purchase, and no refund will be made for any return set.

THOMAS HALLIGAN,
Clerk of Council.

Bids open January 29, 1917.

SEWER PIPE

KALAMAZOO, MICH.

Sealed bids for season's supply of sewer pipe will be received until 7 P. M., Monday, Jan. 29, 1917.

The city reserves the right to reject any or all bids and to award the contract as it may deem most advantageous.

C. L. MILLER,
City Clerk.

Bids open January 22, 1917.

CEMENT

KALAMAZOO, MICH.

Sealed bids will be received by the City Clerk, Kalamazoo, Mich., until 7 o'clock P. M., Monday, Jan. 22, 1917, for 5000 bbls., more or less, of Portland Cement.

C. L. MILLER,
City Clerk.

TREASURY DEPARTMENT, SUPERvising Architect's Office, Washington, D. C., January 12, 1917.—Sealed proposals will be opened in this office at 3 p. m., February 23, 1917, for the construction of the United States post office at Caribou, Me. Drawings and specifications may be obtained from the custodian of the site at Caribou, Me., or at this office, in the discretion of the Supervising Architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids open February 1, 1917.

SEWER EXTENSIONS

OFFICIAL NOTICE NO. 22.

MILWAUKEE, WIS.

Published by the authority of the Sewerage Commission of the City of Milwaukee.

Sealed proposals for the construction of extensions to the Intercepting Sewer System for the City of Milwaukee, Wisconsin, will be received by the Sewerage Commission of said city at its offices in the City Hall until 2.00 P. M., the 1st day of February, A. D. 1917, at which time and place during the session of the said Commission, the proposals will be publicly opened and read.

The work to be done embraces the building of:

1375 lineal feet of 54 in. concrete sewer in tunnels.
151 vertical feet of standard manholes.
4 manhole frames and covers.
Together with all other appurtenances.

The time allowed for the completion of this contract shall be nine (9) months from the date of the Engineer's notice to begin work.

The liquidated damages for not completing the work within the time above stated, shall, for each day in excess thereof, b an amount equal to one-half of one percentum of the aggregate cost of the worl embraced in the contract

Each proposal submitted must be accompanied by a cash deposit of, or, in lieu thereof, by a certified check drawn upon a National or State bank or Trust Company, and to the order of the "Sewerage Commission of the City of Milwaukee" to the amount of Five Thousand Dollars ($5,000.00).

All cash deposits or certified checks deposited by bidders to whom the contract is not awarded will be returned upon application to the Secretary of the Sewerage Commission after the contract has been awarded, or after the rejection of all bids The cash deposit or certified check which has been deposited by the successful bidder will be returned to him as soon as the contract is properly executed and approved by the City Attorney and Sewerage Commission.

Specifications and blank forms of proposals can be obtained, and detailed plans examined, at the office of the Sewerage Commission in the City Hall and a full set of plans will be sent to any contractor upon receipt of five dollars ($5.00). This sum to be returned upon surrender of the plans in good condition.

The Sewerage Commission of the Cit. of Milwaukee reserves the right to reject any and all bids submitted.

JOHN M. FOWLES,
Secretary.

Countersigned:

A. P. PUELICHER,
Deputy Comptroller.

PROPOSALS FOR DREDGING—U. S. Engineer Office, Custom House, Norfolk, Va. Sealed proposals will be received here until 12 M., Jan. 29, 1917, and then opened, for dredging in Southern Branch of Elizabeth River, Va. Further information on application.

FORT H. G. WRIGHT, N. Y.—SEALED proposals for structural and mechanical alterations in Pumping Plant, Fort Michie, N. Y., will be received until 9 A. M., Feb. 20, 1917. Information on application to Constructing Quartermaster.

Large Building Projects More Numerous

Indicate Construction Season for 1917 Will Be Busy One—Pennsylvania Railroad Construction and Other Large Developments Noted

LARGE BUILDING projects coming to light during January have been considerably more numerous than last year, in spite of high prices for labor and construction materials. The first four issues of the Engineering Record for 1916 contained notice of 37 building projects which cost $300,000 or more, while the first four issues of the current year have contained notice of 55 such projects. Smaller work appears to be more numerous this year in about the same proportion. If building work proves up to its usual importance as a gage of the volume of general construction, this would indicate that the coming season is to be much more active than that of last year.

Of the building projects noted in this issue, those in the following table exceed the limit mentioned:

	Kind	Cost
Contract awarded:		
Toledo, Ohio	Power plant	$6,000,000
Proposed work:		
Chester, Pa	Manufacturing plant	15,000,000
Chester, Pa	Steel mill	2,000,000
Kingsport, Tenn	Dye plant	5,000,000
Flint, Mich	Hotel	700,000
Poplar Bluff, Mo	Chemical plant	680,000
Kansas City, Mo	Oil plant	3,000,000
St. Paul, Minn	Warehouse	1,000,000
Lincoln, Neb	Store	400,000
Beaumont, Tex	School buildings	300,000
Spokane, Wash	Hall	750,000

Roads and Paving

The Pennsylvania State Highway Department intends requesting $21,000,000 for highway work during the next two years, which includes $4,000,000 for direct highway construction and $1,250,000 for State aid in road construction in each year, as well as $3,000,000 annually for road maintenance. Road construction noted in this issue includes the following:

	Kind	Cost
Contracts awarded:		
Amsterdam, N. Y	Asphalt block	$110,000
Wilkes-Barre, Pa	Asphalt	130,000
Barboursville, Ky	Highways	170,000
Independence, Iowa	Paving	100,000
Bid opened:		
Brooklyn, N. Y	Asphalt	147,000
Proposed work:		
Collingswood, N. J	Granite	150,000
Lewisburg, W. Va	Highways	103,000
Tulsa, Okla	Bonds sold	100,000
Lauderdale, La	Bonds for sale	200,000
Center, Tex	Highways	120,000
Brownswood, Tex	Highways	499,000
San Francisco, Cal	Boulevard	224,000
Sacramento, Cal	Highway	104,000

Waterworks and Sewers

Construction to increase the water supply of the central section of Philadelphia at a cost of $3,000,000 is being urged. Other waterworks and sewer construction noted in this issue includes the following items:

	Kind	Cost
Contracts awarded:		
Alton, Ill	Trunk sewer	$124,000
Paintsville, Ky	Sewer construction	100,000
Fresno, Cal	Pipe lines	400,000
Proposed work:		
Brooklyn, N. Y	Sewer construction	856,000
Buffalo, N. Y	Sewer construction	1,625,000
Mitchell, Ind	Waterworks	115,000
LaSalle, Ill	Waterworks improvements	172,000
Whitefish Bay, Wis	Sewer system	100,000
Houston, Tex	Waterworks construction	120,000

Miscellaneous Headings

A contract for building 20 miles of railroad near San Diego, Cal., has been let at a cost of $1,000,000. A pier contracted for at San Francisco will cost $248,000. Bids are desired at Guth, Pa., for constructing a $200,000 concrete bridge. It is reported that the Canadian Government contemplates further port improvements, including a shipbuilding plant, at Halifax, to cost $30,000,000. Stockholders of the Pennsylvania Railroad will be asked to authorize an increase in the road's indebtedness of $75,000,000, with which funds work will be started shortly on contemplated improvements, including a new passenger station and terminal facilities at Philadelphia.

Plans have been prepared at Philadelphia for a $400,000 concrete bridge. Additional bridge construction at Dayton, Ohio, is estimated to cost $450,000. Two bridges for which Chicago will shortly call for bids will cost $1,250,000. It is reported that a large hydroelectric development is to be constructed at Higden, Ark.

Plans are being prepared for a drainage project at Blytheville, Ark., to cost $2,000,000. An irrigation development near Salt Lake City will cost $1,800,000. Dock construction contemplated by a railroad at Seattle will cost $350,000. A contract will be let this spring for a $250,000 bridge at Salem, Ore. An expenditure of $500,000 as the State's share of the cost of flood-control work on the Sacramento River has been recommended by the California Board of Control.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Where name of official is not given inquiries should be addressed to City Clerk, County Clerk or corresponding official.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK

Attica, N. Y.—Reported city voted $53,000 bonds to purchase plant of Attica Water, Gas & Electric Co.; also $43,000 additional bonds for extensions and improvements to same. W. L. Hopkins, village clk.

Brooklyn, N. Y.—Bd. of Estimate, Municipal Bldg., New York, authorized sewer improvements to include following: Storm water sewer in Ocean Ave. from Ave. O to Sheepshead Bay, cost $760,000; sewers in portions of E. 18th, E. 19th Sts., Kings Highway, and Aves. P, Q, R, S and U; cost $96,000.

Buffalo, N. Y.—Comr. Arthur W. Kreinheder estimates for the coming year include $1,125,000 for Scajaquada creek improvement, consisting of a sewer to relieve northeast section of city from floods, also $500,000 for storm drain through Lovejoy, Schiller and North Ogden Sts.; other sewers through Michigan, Fillmore Aves., Pratt, William, Spring Sts., emptying into new Swan St. trunk sewer.

Yonkers, N. Y.—All bids opened Jan. 2 for installing 3,000,000-gal. pump in tube well station have been rejected; no date yet set for receiving new bids. Epping Carpenter, Harrison Blvd., Philadelphia, Pa., bid for this work $28,700.

Camden, N. J.—City considering construction of sewers in portions of 18th, 19th, 20th, 21st, 22d, 23d and 24th Sts. and Pierce Ave. A. L. Sayers, street comr.

Essex Fells, N. J.—Essex Fells Electric Light & Water Co. contemplates installation of water collecting and distributing system.

Hackensack, N. J.—Bd. Pub. Utility Comrs. has ordered Hackensack Water Co. to extend system to Palisade Park, near Fort Lee, to furnish local service; about 8000 ft. mains required.

Matawan, N. J.—Reported city considering construction of sewer system.

Stone Harbor, N. J.—Borough has sold $57,000 bonds to be used for purchase of waterworks.

Trenton, N. J.—City Comn. will issue $40,000 sewer bonds. Leon D. Hirsch, city clk.

Wharton, N. J.—J. J. Langdon and Dr. John Walters appointed by Mayor P. E. Stryker as members of water board to procure a new water supply. Present supply is furnished from a private reservoir.

Philadelphia, Pa.—Chamber of Commerce urges Mayor and Council for appropriation of $3,000,000 to increase water supply in central section of city.

Cumberland, Md.—Ralph L. Rizer, city engr., writes that plans are being prepared for waterworks extensions.

Jessups, Md.—Contracts will be let in March for constructing reservoir, sewers and sewage disposal plant; cost $50,000. Robert B. Morse, engr. State Dept. Health, 21 W. Saratoga St., Baltimore.

Clintwood, Va.—City voted $30,000 bonds to establish waterworks here.

Benwood, W. Va.—City Council has construction of municipal waterworks plant under consideration.

Spring Hope, N. C.—City planning $50,000 bond issue to be used for water, sewer, street and light improvements.

Bishopville, S. C.—City engaged J. B. McCrary Co., Atlanta, Ga., to prepare plans for waterworks and sewer system; cost $45,000.

Chesterfield, S. C.—City will expend $45,000 for constructing waterworks and sewer system. J. B. McCrary Co., Atlanta, Ga., preparing plans.

Swainsboro, Ga.—City Engineer has engaged J. B. McCrary Co., Atlanta, Ga., to prepare plans for waterworks and sewer system; cost $60,000.

Tennille, Ga.—City has sold bonds to be used for constructing waterworks and sewer system.

Leland, Miss.—City has engaged Frank L. Wilcox of St. Louis, Mo., to make surveys for proposed sewer system.

Bristol, Tenn.—City considering $75,000 bond issue to be used for waterworks improvements.

Nashville, Tenn.—City considering issuing $1,535,000 bonds for proposed sewer improvements.

Council passed on first reading ordinance appropriating $11,000 for extension of west trunk sewer from 15th Ave. south also $21,000 for extension of Phillips and Butteroff trunk sewer on 19th Ave., west and south.

Springfield, Tenn.—City voted issuing $33,000 bonds for installing filtration system.

Springfield, Tenn.—City voted $33,000 bonds to install filtration system.

Hazel Green, Ky.—Election to be held by town Feb. 15 on the question of issuing $40,000 bonds for waterworks.

Jackson, Ky.—City planning installation of sewer system.

Liberty, Ky.—Election will be held by City Comrs. in March for bonds to be used for waterworks.

Monticello, Ky.—City will issue $20,000 bonds for waterworks.

Bradford, O.—C. A. Preston, supt. water works, writes election Feb. 20 to issue $10,000 bonds to extend water mains and $12,000 bonds for plant.

Canton, O.—City Council considering bond issue for construction of reservoir.

Hamilton, O.—Reported city considering construction of waterworks. J. H. Lynch, mayor.

Leetonia, O.—Contract will be let in spring for 6,000 ft. 8 to 18-in. pipe sewer, Imhoff tank and intermittent filters. E. G. Bradbury, engr., Columbus. J. S. McCue, village clk.

Rocky River, O.—Bonds for $50,000 for installing sewer, disposal plant and tunnels will be sold Feb. 12. F. Mitchell, city clk.

Newburgh Heights (Cleveland P. O.)—Street improvement bonds for $22,500 for improving portions of E. 71st, E. 55th, E. 52nd and other streets will be sold Feb. 6 by J. A. Fitzgerald, village clk. Address Brooklyn, R. F. D. No. 3.

Anderson, Ind.—City considering construction of new sewer on E. Lynn St. City engr. estimates 3000 ft. 22-in., 1060 ft. 18-in., 2000 ft. 15-in., 2270 ft. 12-in.

East Chicago, Ind.—State Utilities Comm. reported to have granted East Chicago Water Co. (C. H. Geist, pres.) permission to construct 8,000,000-gal. filtration plant. Leonard Metcalf, 14 Beacon St., Boston, Mass.

Mitchell, Ind.—City planning waterworks; cost about $115,000. R. M. Cass, engr., 514 American Central Life Bldg., Indianapolis.

Lafayette, Ind.—Mayor Thos. Bauer in his annual message recommends storm sewers in 1st Ward east of 9th St. and north to State St. Plans are also reported being prepared for sewers for 7th Ward and extension of Greenbush St. sewer.

Escanaba, Mich.—City planning sewer construction in three districts; cost $33,230.

Decatur, Ill.—City considering plans for construction of intercepting sewer and sewage disposal plant. P. T. Hicks, city engr.

La Salle, Ill.—City having plans prepared by C. G. Cypher and E. J. Byrne, city engr., both of La Salle, for improvements to waterworks, new pumps, etc.; cost $150,000; funds raised by bond election; city also planning to lay $22,000 water mains and extensions next summer.

Normal, Ill.—Cities of Normal and Bloomington considering construction of sewer on Linden St. City engineers of both places will prepare estimates in order to divide cost.

Rock Island, Ill.—City Council has adopted ordinance for laying 1 mile of 6 and 10-in. water mains; cost about $10,823.

Rock Island, Ill.—Wm. McConochie, mayor, reported to be in favor of constructing a sewer system for the old territory of Sears, now part of city.

West Frankfort, Ill.—Contract will be let early this spring for sewers etsimated cost $100,000. P. B. Wilson, engr., Marion, Ill.

Sturgeon Bay, Wis.—City planning waterworks improvements; cost $35,000.

Union Grove, Wis.—Reported sewer system and disposal tank being considered; cost $15,000. W. G. Kirchoffer, engr., Madison.

Whitefish Bay, Wis.—E. F. Liedel, City Hall, Milwaukee, preparing plans for sewer system; cost $100,000. W. H. Volkman, village pres.

Massena, Ia.—City will construct 24 blocks of water mains and tank 78 ft. high, 50,000 gal. capacity; cost $16,000. C. McBride, city clk.

West Burlington, Ia.—City voted $70,000 bonds for waterworks and sewer improvements. Stevens & Stiles, engrs., 222 Commerce Bldg., Kansas City, Mo.

Red Wing, Minn.—Lateral sewers to be installed in 5th and 6th Sts., and trunk sewers in portion of Jefferson St. W. Geisheker, city engr.

Wabasha, Minn.—Plans being prepared for sewer extensions; cost $30,000. J. T. Drain, engr., 312 Commercial Bldg., St. Paul.

Eldorado, Kan.—Election to be held Feb. 13 on question of issuing $60,000 bonds for waterworks. F. E. Devlin, engr.; B. F. Alleback, city clk.

Ft. Scott, Kan.—City Comrs. plan constructing filter plant and additional dams in Marmaton River; cost about $32,000.

La Crosse, Kan.—City planning water works construction involving 30,000 ft. 4, 6 and 8-in. c. i. pipe, 2 wells, 80,000-gal. stand pipe; cost about $40,000. W. B. Rollins, engr., 208 Railway Exchange Bldg., Kansas City, Mo.

Munden, Kan.—City planning waterworks and light plant; cost about $20,000.

Fremont, Neb.—Bd. Pub. Wks. plans extending and improving present waterworks.

Bowman, N. D.—Plans being prepared for laying several miles of mains and wells for city; cost about $20,000.

Wolsey, S. D.—City planning the construction of a new waterworks system.

Big Sandy, Mont.—City voted Jan. 8 to issue $29,000 bonds for constructing waterworks. Address City Treasurer.

Earl, Ark.—Preliminary plans being prepared by U. S. Sanitary Septic Tank Co., Memphis, Tenn., for constructing sewer system; tile pipe to be used. H. C. Crum, city recorder.

Springdale, Ark.—Reported Edgar Masoner, Bentonville, and W. A. Wilson, Springdale, plan erecting electric light and water plant here; cost $100,000.

Cameron, Tex.—City having plans prepared by Bartholow-Willits Eng. Co., Galveston, for disposal plant.

Dallas, Tex.—City will construct an auxiliary sewage disposal system; cost $30,000 during 1917.

Houston, Tex.—Bids now being received by City Secy. for section of waterworks involving 14,000 ft. 20-in. pipe three 12,000 g.p.m. centrifugal pumps, 7 wells; cost $120,000.

State Attorney-General approved $400,000 bond issue for improvements to sanitary sewers here.

Longview, Tex.—Plans being prepared by H. N. Roberts, city engr., for sewage disposal plant for city.

Pecos, Texas.—City council has granted franchise to H. La Salle of El Paso, to pipe water into city for distance of 14 miles. Mr. La Salle purchased the waterworks and will extend system to all parts of city.

Taylor, Tex.—Election will be held on question of issuing bonds to be used for purchase of the Taylor Sanitary Sewer Co., and for extensions of same. W. E. Dozier, city mgr.

Waxahachie, Tex.—Mayor E. B. Prince has been authorized by City Council to secure plans for construction of sewage disposal plant; cost about $20,000.

Lindsay, Okla.—Benham Engineering Co., of Oklahoma City, appointed to supervise construction of sanitary sewers. Election will be called to issue $30,000 bonds as soon as plans and estimates have been prepared.

La Salle, Col.—City voted Jan. 9 to issue $25,000 bonds for waterworks; construction of sewers also in contemplation. Geo. H. Sethman, engr., Denver. T. W. Olsen, city clk.

Pueblo, Col.—Reported 2 auxiliary reservoirs to be constructed for north side water users; cost about $45,000; Chmn. Water Board.

Trinidad, Col.—W. R. Lewis supt. water wks., writes city considering bond issue to purchase reservoir site; construction contemplated at a later date, not yet determined.

Cheney, Wash.—J. P. Lasher, city clk., writes $10,000 to be expended for waterworks improvements.

Astoria, Ore.—A. J. McLean, city engr., has plans under way for sewer work, including sewerage system on Cedar and 7th Sts.; and in Reclamation Dist. 2; latter to cost about $25,000.

Pomona, Cal.—Clarence E. Bayley, city engr., writes citizens have submitted report to Council recommending $200,000 bond issue for constructing storm waterways and combined paving. No action taken by Council as yet.

Roseville, Cal.—City considering issue of $80,000 bonds to purchase waterworks and make extensions.

San Diego, Cal.—Special election March 6 by County Supervisors to vote on formation of water district to include parts of San Diego, La Mesa, Lemon Grove, Mission Valley and Ocean Beach.

State Bd. Health granted permission to city to discharge sewage into False Bay, near Ocean Beach, on condition that it be clarified in Imhoff tanks and that plans for sewer system to be built at Ocean Beach first be approved by State Bd.; plans are being approved by Olmsted & Gillelen, Hollingsworth Bldg., Los Angeles.

San Francisco, Cal.—A favorable report has been ordered by the House Military Affairs Comm. at Washington, D. C., on the Kahn Bill to permit the city and county to construct a 40-in. concrete storm water relief sewer from Lobos Creek through a portion of the Presidio.

Santa Barbara, Cal.—Olmsted & Gillelen, Hollingsworth Bldg, Los Angeles, completed and submitted plans to City Council and A. B. Cook, city engr., for constructing sewerage system, involving sewage treating plant, about 1500 ft. outfall line into ocean, installation of additional pumps, removal of present pumps, relaying existing pipes, etc.; cost about $85,000.

Las Vegas, Nev.—See "Railroads."

Salt Lake City, Utah.—City Comn. (H. C. Green) reported considering issue of $100,000 bonds for conservation of the water supply of city creek.

Emmet, Idaho.—City to construct sewers, mains and disposal plant; cost about $58,132.

BIDS DESIRED

Oswego, N. Y.—Until Feb. 20 by Dept. Wks. (Chas. W. Linsley, comr.) for about 6800 lin. ft., of 6 to 12-in. vitr. tile sewers with necessary Y branches, manholes, catchbasins, etc.; advertised in this issue.

Newark, N. J.—Until Feb. 8 by Bd. Street and Water Comnrs., for 3,000 water meters; advertised in this issue.

New Brunswick, N. J.—Until Feb. 6, by City Comrs. (Edward F. Farrington, dir. pub. affairs) for c.-i. pipe as follows: 400 12-ft. lengths, 6-in., bell and spigot, and 600 12-ft. lengths., 8-in. bell and spigot.

Ridgefield, N. J.—Until Feb. 14, by Mayor and Council for constructing sewerage system; S. V. R. Martling, chmn. sewer committee; Charles F. Blood, engr., Morsemere; advertised in this issue.

Alliance, O.—Until Feb. 5 (new date) by J. H. McConnell, dir. pub. serv., for improvement to sewage disposal plant; specifications may be obtained from City Engr., or from R. Winthrop Pratt, cons. engr., Hippodrome Bldg., Cleveland.

Akron, O.—Until Feb. 14, by Dir. Pub. Serv., for erecting 2 water tube boilers 300 hp. each; boilers to be installed in existing Cuyahoga River Pumping Station, near Kent; advertised in this issue.

East View (Cleveland, P. O.), O.—Until Feb. 12 by Chas. J. Vlk, clk., at office of Pease Eng. Co., Marshall Bldg., Cleveland, for constructing sanitary sewer in portions of E. 149th St. and Allen Ave., and for grading, paving and constructing sidewalks on portions of Allen Ave.

Mariette, O.—Reported desired until Feb. 1, by city, for constructing waterworks system; cost about $100,000; Chester & Fleming, Union Bank Bldg., Pittsburgh, engr.

Ravenna, O.—Until Mar. 10, by H. B. Horsfall, dir. serv., for gravity pipe line, diversion dam, 2,000,000 gal. rapid sand filtration.

Wyoming, O.—Reported desired until Feb. 14, by George H. Eversman, village clk., for constructing sewers in portions of various streets; bond for $500 to accompany bid.

East Grand Rapids, Mich.—Reported desired until Feb. 5 for constructing about 1 mile 10 to 30-in. pipe storm sewer in Robinson Road. H. P. Hugenholtz, village clk., 303 Powers Theater Bldg., Grand Rapids; J. R. Rumsey, engr., Houseman Bldg., Grand Rapids.

Berwyn, Ill.—See "Roads and Paving."

Hillsboro, Ill.—Reported desired until Apr. 1, for constructing sewer system; cost about $12,000; address W. A. P. Warren, city engr.

Monticello, Wis.—Until Feb. 1, by H. M. Marty, village clk., for constructing sewage disposal tank; certified check for $100 to accompany each bid; specifications may be obtained from village clk., or at 31 Vroman Bldg., Madison.

Humboldt, Kan.—Until Feb. 19 by Chas. H. Schaffner, city clk., for constructing main sanitary and lateral sewers in Dist. No. 2; certified check for $1,500 to accompany bid.

Pittsburg, Kan.—Until Jan. 31, at office city clk., for constructing storm sewer in Drain. Dist. No. 3; bids received on vitr. pipe, reinforced concrete pipe or monolithic concrete construction; cost from $10,000 to $15,000. L. E. Curfman, city engr.

Winfield, Kan.—See "Reinforced Concrete."

Florence, Neb.—Reported desired until Feb. 7 by Metropolitan Water Dist. (R. B. Hornell, gen. mgr.) for pumping station, pumping capacity 30,000,000 gal. per day. R. B. Howell, mgr.

Toronto, Ont.—Until Jan. 30 (extension of date), by Bd. Control (T. L. Church, mayor, chmn.) for installing 40,000,000 gal. centrifugal sewage pump at Main sewage pumping station.

PRICES AND LETTINGS

★Indicates award of contract.

Brooklyn, N. Y.—Following are 4 lowest bids (given in percentages of the engineer's estimate) opened Jan. 17 by L. H. Pounds, Pres. Boro. of Brooklyn, for constructing sewers in portions of Louisiana Ave., Stanley Ave.; also for extending Williams Ave. sewer Engineer's preliminary estimate being $191,702. James Ferry & Sons, 2411 Madison Ave., Baltimore, Md., 98½ per cent.; J. J. Cream, 688 Green Ave., Brooklyn, N. Y., 98¾ per cent; Litchfield Constr. Co., 23 Flatbush Ave., Brooklyn, N. Y., 106 per cent; Newman & Carey, 1228 Nostrand Ave., Brooklyn, N. Y., 106 99/100 per cent.

★Paintsville, Ky.—Contract awarded by city to Underwood & Lotspeich, Greenfield, Ind., for sewerage and drainage work; also macadamizing streets, at a cost of $100,000.

★Akron, O.—Contract awarded to M. H. O'Toole, Akron, for constructing sewers on portions of Brock, Wildwood, Hoye and other streets. (Bids opened Jan. 19.) E. A. Zeisloft, city engr.

Lorain, O.—Lowest bid opened by city for waterworks pump submitted by Baker-Dunbar & Allen Co., Citizens Bldg., Cleveland, at $10,000.

Sidney, O.—Contract awarded Jan. 11 by city to A. J. Yarber, for constructing sewers at $21,013. C. B. De Weese, service director.

Lafayette, Ind.—Following are lowest bids opened by City Jan. 17 for constructing 6 1/3 miles of 8 to 12-in. vitr. pipe sewer on (a) 14th St., (b) 18th St., (c) State St.: Moreno Burkham Constr. Co., Broadway and Bissel St., St. Louis, Mo., (a), $20,779, (c) $12,431; Foley Constr. Co., 127 N. Dearborn St., Chicago, Ill., (b) $11,131. H. B. Overesch, Jr., city engr.

★South Bend, Ind.—Contract awarded by city to Staples & Ackerman for constructing sewers in Carroll, Fellows, Rush, Marietta Sts. from Indiana Ave. to Broadway.

★Pontiac, Mich.—Contract awarded by city for air compressor at waterworks to Worthington Pump & Machinery Corp., 115 Broadway, New York, N. Y., $15,882.

★Alton, Ill.—Following are four lowest bids opened Jan. 15 by city for constructing trunk sewer in Shield Branch Sewer Dist.: Myers Constr. Co., 3rd National Bank Bldg., St. Louis, Mo., $124,023 (awarded contract); Hoeffken Bros., Belleville, Ill., $124,391; E. R. Darding Co., Racine, Wis., $124,617; Strubel & Helmich, Alton, Ill., $132,980. T. H. Landon, city engr.

★Jacksonville, Ill.—Contract awarded by city to Faulkner Constr. Co., Terre Haute, Ind., for 13 miles of 6 to 18-in. sewer pipe at $62,558.

★Burlington, Ia.—C. E. Waterhouse, city engr., writes contracts for constructing sewers (bids opened Jan. 4) have been awarded as follows: to Burlington Constr. Co., Burlington, sect. 1, 690 ft. 6 ft. reinforced concrete arch, $10.80 per lin. ft.; 2730 cu. yds. earth excav., 60 cts. per cu. yd.; 50 cu. yds. rock excav., $3.50 per cu. yd.; total, $9265. Sect. 2, to Olsen-Schmidt Constr. Co., St. Joseph, Mo., 19,545 ft. concrete pipe sewer, 10 to 36-in., $1.75 per lin. ft.; 810 cu. yds. rock excav., $3.50 per cu. yd.; total $37,039

★Cordell, Okla.—Contract awarded by city to Janes Constr. Co., Guthrie, Okla., for constructing main and submain sewers at $24,436. Bids for filter beds and dosing chamber not let. J. Reid, city clk.

★Tulsa, Okla.—Contract awarded by city to Carl Pleasant for Cat Creek sewer at $14,000.

★Fresno, Cal.—Contract awarded to Bent Bros. Constr. Co., Central Bldg., Los Angeles, for constructing about 125 miles concrete pipe lines, mostly 16-in., with weirs, etc., on land in Fresno Co., being developed by M. and E. Allen; cost about $400,000.

STRUCTURAL STEEL WORK

PROPOSED WORK

Glen Falls, N. Y.—County sold $30,000 bonds to construct viaduct over Hudson River, this place. Address Co. Clk., Lake George.

Sea Isle, N. J.—Bonds for $118,000 for constructing and repairing bridges in county will be sold Feb. 6 by Bd. Freeholders (Frank W. Fowkes, clk.).

Guth, Pa.—Contracts about to be awarded by Catasauqua & Fogelsville R. R. (Sam. T. Wagner, ch. engr., Reading Terminal, Philadelphia, Pa.) for 1200 ft. steel and concrete bridge, near here; estimated cost $200,000.

Oil City, Pa.—Pennsylvania R. R.'s (Alex. C. Shand, ch. engr., Broad St., Philadelphia, Pa.) proposed bridge over Allegheny River here will have 15 spans, main channel span being 398 ft. long; in addition there will be five 100 ft., one 56 ft., one 47 ft. and seven 43 ft. spans.

Lake Worth, Fla.—Co. Comrs. West Palm Beach, intend constructing bridge over Lake Worth, with part of $50,000 bridge bonds recently voted.

Baton Rouge, La.—East Baton Rouge and Livingston parishes intend constructing 2 steel bridges over Amite River. Thos C. Forman, chmn of comn., Baton Rouge

Hazlehurst, Miss.—Bridge bonds for $50,000 will be sold Feb. 5, by Bd. Superv.

Clarksville, Tenn.—County will hold election May 1 to vote $50,000 bonds to construct 2 bridges over Cumberland River, one at Franklin St., other at Seven Mile Ferry.

Urbana, O.—Bonds for $10,000 for purpose of repairing Dugan St. Bridge will be sold Feb. 15 by H. M. Crow, city aud.

Chicago, Ill.—Estimated cost of bridges for which bids will shortly be asked by city are: Wells St., $650,000; Franklin-Orleans St., $600,000; Lawrence Ave., $130,000; North Kimball Ave., $32,000; South Crawford Ave., $31,000; South Kedzie Ave., $25,000. John Ericson, city engr.

Edwardsville, Ill.—See "Excavation, Drainage and Dredging."

Ellsworth, Wis.—Plans being prepared by M. W. Torkelson, engr., Capitol Bldg., Madison, Wis., for constructing the Trenton steel bridge with 5 spans, each 120 ft. long, over Wisconsin Channel of Mississippi River.

St. Joseph, Mo.—See "Foundations, Piers and Dams."

North Roby, Tex.—Contract will be awarded by Roby & Northern Ry. (L. C. Eastland, vice-pres. and gen. mgr., Hillsboro, Tex.) for constructing 23-mile extension from here to Sweetwater, Tex.; including 4 steel and concrete bridges, each 1,200 ft. long.

Seattle, Wash.—Contracts will soon be awarded by Bd. Pub. Wks. (C. B. Bagley, secy.) for constructing temporary drawbridge and approaches over West Waterway at West Spokane St.; estimated cost $70,000. F. A. Rapp, bridge engr.

Astoria, Ore.—Plans being prepared by A. J. McLean, city engr., for constructing viaducts with a total length of 1,151 ft.

Salem, Ore.—Contracts will be awarded before May 1, by Marion and Polk Counties (Salem and Dallas, respective co. seats) for constructing inter-county bridge over Willamette River, this place, for which alternate plans for steel and concrete bridge were prepared; estimated cost $250,000. U. G. Boyer, co. clk., Salem.

San Pedro, Cal.—Los Angeles Bd. Harbor Comrs., Los Angeles, considering construction of 175-ft. steel drawbridge over West Basin Channel.

Las Vegas, Nev.—See "Railroads."

BIDS DESIRED

Yonkers, N. Y.—Until Jan. 29 (change of date) by Bd. Superv., White Plains, for erecting bridge over Bronx River, on Tuckahoe Road, between here and Bronxville, to be of natural stone about 60 ft. wide; cost $17,000. Alfred Merz, 16 Locust Hill Ave., chmn. Comn. Roads and Bridges.

Mount Holly, N. J.—Until Feb. 7 by Bd. Freeholders (A. I. Davis, dir.), Court House, for reconstructing bridge on King St., spanning Rancocas Creek; plans may be obtained from James Logan, 11 Main St., co engr., upon deposit of $6.

Pennsgrove, N. J.—Until Feb. 9, by Bd. Freeholders, for constructing bridge; cost $50,000. Address co. engr.

Knoxville, Pa.—Until Feb. 13, by Jas. C. Patterson, deputy supt. of pub. grounds and bldgs., for furnishing material and erecting bridge over Cowanesque River on Little Marsh Rd., Deerfield Twp. G. A. Flink, consulting engr. of bd.

Brandenburg, Ky.—Reported desired until Feb. 28 for constructing new steel bridges during 1917; cost $40,000. Address Co. Judge.

Balsam Lake, Wis.—Reported desired until Feb. 9 by J. R. McLean, co. highway comr., for following bridges: Town Clear Lake, Laconic Bridge, 22-ft. span, 20-ft. roadway; Walsworth Bridge, same dimensions; St. Croix Falls Bridge No. 1, over Rock Creek, 10-ft. span and 20-ft. roadway; Thompson Bridge, over Rock Creek, 8-ft. span and 20-ft. roadway; certified check for 5 per cent to accompany bid.

Anamosa, Ia.—Until Feb. 6, by E. J. Hines, co. aud., for constructing 7 I-beam spans, one pony truss span and 9 reinforced concrete box culverts.

Fort Dodge, Ia.—Until Feb. 9, by J. L. Hanrahan, co. aud., for constructing 35 bridges and culverts.

Maquoketa, Ia.—Until Feb. 7, for constructing bridge and culvert; Chas. M. Fisher, co. engr.

Northwood, Ia.—Until Feb. 5, by Co. Aud., for constructing number of bridges and culverts; F. R. Lyford, co. engr.

Vinton, Ia.—Until Feb. 20, for constructing bridge and culvert. Amos Melburg, co. engr.

Dillon, Mont.—Reported desired until Mar. 7, by J. S. Baker, co. clk., for constructing 122-ft. steel bridge over Beaverhead River here, and 60 ft. wooden bridge over Big Hole River at Wisdom; particulars may be obtained from State Highway Comn., Helena.

Lusk, Wyo.—Until Feb. 6 by Bd. Co. Comrs. (E. G. Jones, chmn.) for constructing steel bridge across Running Water Creek; certified check for $100 to accompany each bid.

Boise, Idaho.—Until Feb. 1, by Co. Comrs. (Stephen Utter, clk.), for constructing 11 "I" beam bridges; specifications may be obtained from co. auditor upon deposit of $10; check for 10% of bid required.

PRICES AND LETTINGS

★Indicates award of contract.

★Brooklyn, N. Y.—Contract awarded by Pub. Serv. Comn., 120 Bway., New York City (bids opened Jan. 10) to American Steel Co., Inc., 30 Church St., New York

City, at $1,431,755, for furnishing steel for proposed elevated extension of Eastern Parkway subway from point between President and East 38th St. to Lavonia Ave. and Ashford St., and to W. G. Cooper, 220 Broadway, New York City, at $257,164, for constructing steel work.

★**Bethlehem, Pa.**—Contract awarded by New Street Bridge Co. (private toll bridge company), Bethlehem, Pa., to Owego Company, Owego, N. Y., at $20,000, for strengthening bridge over Lehigh River.

Rock Hill, S. C.—Virginia Bridge & Iron Co., Roanoke, Va., were low bidders for construction of steel bridge over Catawba River, near here. Miller & White, engrs., Rock Hill, S. C.

★**Niles, O.**—Contract awarded by county to Dennis & Daugherty, Warren, O., at $12,326, for constructing bridge over Meander Creek, this place, on South Main St.; $2,500 of cost will be borne by Mahoning Valley R. R., R. P. Stevens, pres., 25 East Boardman St., Youngstown, O.

Chicago, Ill.—Low bids opened Jan. 10 by Bd. Pub. Wks. (W. R. Moorehouse, comr.) for constructing superstructure of Strauss direct-lift bridge at West 12th St. over south branch of Chicago River, are (a) superstructure complete and removal of present swing bridge, (b) operator's and watchman's houses of terra cotta: Ketler-Elliott Erection Co., 155 N. Clark St., Chicago (a) $927,000, (b) $16,000, Walsh & Masterson, 105 N. Clark St., Chicago, (a) $977,000, (b) $17,000; Toledo Bridge & Crane Co., Dorr St. and Lake Shore R. R. tracks, Toledo, O. (a) $978,000, (b) $19,500; Strobel Steel Constr. Co., 53 W. Jackson St., Chicago, (a) $1,029,000, (b) $16,100. See "Foundations, Piers and Dams, Prices and Lettings."

★**Deadwood, S. D.**—Contract awarded by county (bids opened Jan. 8) to Hanson Bros., Deadwood, for constructing bridges, abutments and retaining walls; also I-beam bridges. Fred Harris, co. aud.

★**Bay St. Louis, Miss.**—Contract awarded by Mississippi Bridge & Turnpike Co. (Howard Eggleston, engr. and secy., Hibernia Bank Bldg., New Orleans, La.) to Hackendorn Bridge Co., Indiana Pythian Bldg., Indianapolis, Ind., at about $800,000, for constructing bridge over bay at Bay St. Louis.

★**Warrensburg, Mo.**—Contract awarded by county (bids opened Jan. 16) to Western Bridge Co., Harrisonville, Mo., for constructing 16 steel bridges. Theo. Hyall, co. clk.

★**Everett, Wash.**—Contract awarded by county Jan. 4 to H. S. Wright, Everett, Wash., at $32,242, for constructing steel draw and approach spans to 18th St. bridge

★**Toronto, Ont.**—Contract awarded Oct. 2, by Toronto Harbor Comn. (E. L. Cousins, ch. engr. and mgr., 50 Bay St., Toronto) to Dominion Bridge Co., Ltd., Toronto, Ont., at $150,000, who are now working on detail shop plans, for constructing superstructure of steel bascule lift bridge over Don Diversion Channel, ft. of Cherry St., which was designed by Strauss Bascule Bridge Co., Chicago, Ill., and will be 120 ft. long, 64 ft. wide and have reinforced concrete foundations.

REINFORCED CONCRETE

PROPOSED WORK

Schenectady, N. Y.—Estimated cost to construct proposed Great Western Gateway concrete bridge, as outlined by John A. Bensel, engr., 111 Bway., New York City, over Mohawk River from State St., this place to Mohawk Ave., Scotia, placed at $950,000, bill now before Assembly apportions cost as follows: City of Schenectady to pay cost of constructing approach, first span and abutment in barge canal on its side, village of Scotia to pay for same work on its side and state to pay for center part of bridge. W. W. Wotherspoon, comr., N. Y. State Bd. Pub. Wks., Albany, N. Y.

Asbury Park, N. J.—City Comrs. contemplates constructing a concrete wall around Wesley Lake, 2600 ft. long; cost $9000; also dredging lake; cost $3000. Address John A. Githens, Sr.

Philadelphia, Pa.—Plans have been submitted to Art Jury by Dept. Pub. Wks. (Chester E. Albright, ch. engr.) for constructing 335-ft. span concrete bridge, 80 ft. wide, with two 10-ft. sidewalks and 60-ft. roadway with double tracks for trolley line, over Henry Ave. and Wissahickon River, extending into Roxborough; estimated cost $400,000. Geo. E. Datesman, dir.

Reported City Hospital will erect 3-story and basement, brick reinforced concrete and steel addition to its Pathological Laboratory.

Royersford, Pa.—Estimated cost to replace present iron bridge over Schuylkill River between here and Spring City with concrete structure placed at $100,000, which will be borne three-fifths by Montgomery and two-fifths by Chester Cor., Norristown and West Chester, respective county seats.

Jacksonville, Fla.—Reported O. P. Woodcock, 403 Main St., Jacksonville, plans erecting hotel and store building of brick and concrete to cost $50,000.

Knoxville, Tenn.—City Comn., although in favor of constructing bridge at Gay St. over tracks of Southern Ry. (B. Herman, ch. engr., Washington, D. C.), but not agreed as to design of such a structure, have retained Marsh Engr. Co., Masonic Temple Bldg., Des Moines, Ia., who submitted plans for $135,000 concrete arch bridge, 66 ft. wide, to be constructed at Bway. from point between Park and Depot Aves. to Jackson Ave.

Richmond, Ky.—County voted $35,000 to construct bridge over Kentucky River.

Cincinnati, O.—Reported Charles Boldt Co. will erect 5-story warehouse and 1-story factory building, both of reinforced concrete, on Eastern Ave. opposite Miami and Redbank Aves.; cost $80,000.

Dayton, O.—County intends constructing Milwaukee Ford bridge and 2 others at estimated cost of $450,000.

St. Clairsville, O.—County Comrs. intend constructing wagon bridge over creek at Armstrong Mills and another over creek at Glencoe.

Logansport, Ind.—Petitions being circulated in city asking Co. Comrs. to replace bridge over Eel River at Third St. with new and larger one, instead of one over Wabash river at Country Club.

Dixon, Ill.—Plans being prepared by Chas. F. Nesbit, city engr., for constructing $100,000 bridge over Rock River.

Dubuque, Ia.—Plans being prepared by Farley & Loetscher Mfg. Co., for erecting 7-story and basement, brick and reinforced concrete warehouse to cost about $125,000.

Muskogee, Okla.—See "Roads and Paving."

Portland, Ore.—Reported Spalding Estate will erect reinforced concrete building to cost about $50,000. Sutton & Whitney, archts., Lewis Bldg., Portland.

Modesto, Cal.—Plans being prepared by DeRemer & Hewitt, 624 Title Insurance Bldg., Los Angeles, for erecting concrete, hollow tile and brick high school building; $125,000 available.

Pomona, Cal.—Preliminary plans being prepared by C. E. Bayley, city engr., for eliminating grade crossings on Salt Lake & Los Angeles Ry. (Jos. Nelson, pres. and gen. mgr., Salt Lake City) and Southern Pacific Ry. (W. Hood, ch. engr., San Francisco), by constructing concrete viaducts, cost of which city proposes to pay, and lowering grade of tracks to maximum of 19 ft.; estimated cost $500,000.

Riverside, Cal.—Plans being prepared for Gage Canal Co. (C. H. Low, dir.) for 66 in. reinforced concrete inverted siphon 530 ft. long to be constructed across canyon between Redlands and Grand Terrace, also concrete flume to replace present No. 4 flume and ingot iron flume to replace No. 5 flume; probable cost $14,000.

San Rafael, Cal.—Plans being prepared by Chas. Richardson, co. surv., for constructing 2 concrete bridges on state highway.

Las Vegas, Nev.—See "Railroads."

Grangeville, Idaho.—Grangeville Electric Light & Power Co. (T. E. Bayliss, supt.) contemplates constructing concrete dam across Clearwater River, 375 ft. long, 55 ft. high, to develop about 10,000 hp.; cost about $60,000.

Toronto, Ont.—See "Buildings, Proposed."

Toronto, Ont.—See "Buildings."

BIDS DESIRED

Yonkers, N. Y.—Until Feb. 19 by Harvey B. Green, clk. bd. supervs., Court House, White Plains, for constructing reinforced concrete arch bridge over Bronx River on Tuckahoe Road, between here and Tuckahoe; certified check for 5 per cent to accompany each bid; bond for $10,000 to be furnished on award of contract.

Guth, Pa.—Until Jan. 31 by Castanqua & Fogelsville R. R. Co. (S. T. Wagner, engr.) for constructing reinforced concrete bridge over river east of Guth, to be 1200 ft. long; cost $200,000.

Port Gibson, Miss.—Until Feb. 5 by city clk. for constructing 6 miles concrete banquetting.

Columbus, O.—Until Feb. 16, by Bd. Co. Comrs. (John Scott, clk.) for plan "A," estimate No. 354, 2 hinged through concrete arch bridge, 192 ft. 8 in. span; 20 ft. clear roadway; contract includes 1,600 cu. yd. excavation, 4,500 lin. ft., jetted wooden piling, 1,050 cu. yd. concrete, 148,000 lbs. reinforcing steel; advertised in this issue.

Fort Wayne, Ind.—Until Feb. 8 by Co. Comrs. for constructing 3-span concrete arch bridge; appropriation $75,000. A. W. Grosvenor, engr.

Ann Arbor, Mich.—Reported desired until Feb. 1 by Michigan Central R. R. (D. H. Webb, Detroit, ch. engr.) and State Highway Comn., for constructing reinforced concrete bridge over Huron River near Ann Arbor; cost about $45,000.

Winfield, Kan.—Until Feb. 5 by W. C. Hail, city clk., for constructing 1,750,000 gal. reinforced concrete reservoir. Burns & McDonnell, con. engrs., Interstate Bldg., Kansas City; advertised in this issue.

San Rafael, Cal.—Reported desired until Feb. 5, by E. W. Smith, city clk., for erecting 2-story reinforced concrete fire department building.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Bolton, Conn.**—Following are 4 lowest bids received by State Highway Comn., Hartford, for constructing 94 ft. reinforced concrete bridge and grading 5,620 lin. ft. road in connection with railroad crossing elimination here: L. C. Fay Constr. Co., 318 Main St., Springfield, Mass., $47,262 (awarded contract); C. W. Blakeslee & Sons, New Haven, Conn., $49,459; Frank Arrigoni & Bro., Middletown, Conn., $51,-672; Hyde Park Constr. Co., Boston, Mass., $54,283.

Buffalo, N. Y.—See "Foundations, Piers and Dams."

★**Philadelphia, Pa.**—See "Buildings, Prices and Lettings."

★**Baltimore, Md.**—See "Roads and Paving."

★**Jacksonville, Fla.**—See "Excavating, Drainage and Dredging."

★**Cincinnati, O.**—Contract awarded by Chas. Boldt Glass Co. to Ferro Concrete Constr. Co., Richmond & Harriet Sts., Cincinnati, for erecting reinforced concrete buildings on Eastern Ave., 5-story warehouse and a 1-story manufacturing building, to cost $80,000.

★**Nevada, Ia.**—Contracts awarded by county (bids opened Jan. 16) to Cole Bros., Ames, Ia., and to Butson & Jondahl, Roland, Ia., for reconstructing 55 reinforced concrete bridges and culverts. Sam Steigerwalt, co. engr.

★**El Centro, Cal.**—Contract awarded by Imperial Valley Dist. (F. H. McIver, Secy.) to Ross Constr. Co., Sacramento, Cal., at $268,907 for constructing Rockwood Intake Gate, a reinforced concrete structure.

★**Fresno, Cal.**—Contract awarded R. F. Felchlin, Fresno, for erecting 5-story and basement reinforced concrete hospital building for Burnett Sanitarium; cost $90,000. Kraft & Son, archts., Phelan Bldg., San Francisco.

Yuma, Ariz.—Following are bids opened Jan. 12, by Bd. Dir. Imperial Irrigation Dist. (C. K. Clarke, ch. engr.) El Centro, Cal., for constructing the Rockwood intake gate, reinforced concrete 745 ft. long 60 ft. wide, consisting of floor with cut-off walls supporting a series of piers, which in turn carry a reinforced concrete box which traverses longitudinally the entire structure on California side of the Colorado River about 6,000 ft. upstream from Hanlon Headgate of the Imperial Canal and about 8 miles below Yuma; Ross Constr. Co., Sacramento, Cal., $268,906 (awarded contract if financial arrangements are made by the district); Jas. Kennedy Constr. Co., Washington Bldg., Los Angeles, $288,909; Welch-Wright Constr. Co., San Diego, $294,801.

★**Windsor, Ont.**—Contract awarded by Huron & Erie Loan Co., London, to John Putherbough, 1006 Richmond St., London, for erecting branch office, of brick, terra cotta and reinforced concrete construction to cost $50,000.

ROADS AND PAVING

PROPOSED WORK

Haverhill, Mass.—City contemplates paving 45,000 sq. yds. on various streets with bituminous macadam, also 5,000 yds. of stone block pavement; estimated cost $60,000. Louis C. Lawton, city engr.

Massachusetts.—Because estimates for widening existing state highways to admit passage of horse-drawn vehicles going in opposite directions are placed at $11,541,000, State Highway Comn., Boston, considers construction of new highways would be cheaper.

Hartford, Conn.—See "Railroads."

Stamford, Conn.—City intends spending $15,782 on sidewalks and street crossings this year.

Brooklyn, N. Y.—Bd. Estimate, Municipal Bldg., New York City, adopted plan to extend Flatbush Ave. from its present terminus to Mill Basin bulkhead line on Rockaway Peninsula, which involves future development of entire Jamaica Bay dist., comprising thousands of acres of waste land.

Buffalo, N. Y.—Bd. Supervs., who have voted to construct road between Buffalo and Olean, considering opinion of citizens of villages and towns between these two communities as to most advantageous route to use.

Ithaca, N. Y.—Estimated cost of city's proposed permanent street improvements this year placed at $25,000, which include brick pavement on portion of North Aurora St., $12,000—probably a 600-ft. concrete surface water drain will be constructed—and paving portions of Dryden road and West Buffalo St. City's share of South Aurora St. grade crossing elimination, which will include 600 ft. of paving, placed at $7,000 by John C. Townley, supt.

Perry, N. Y.—This town will pay 40 per cent and county 60 per cent for proposed improvement, this spring, of 2 mile section of road that extends from Livingston Co. line to Perry Center. Wm. D. Page, superv.

Hammonton, N. J.—State Highway Dept., Trenton, completing details for constructing proposed concrete highway at this place. J. C. Remington, Jr., town engr.

Collingswood, N. J.—Contracts will probably be awarded about March 1 for improving Haddon Ave. and other streets with granite block on concrete foundations; estimated cost, $150,000. Wm. Hembrecht, boro. clk.; Remington & Vosbury, engrs., Eighth and Market Sts., Camden, N. J.

Freehold, N. J.—Plans being prepared by Geo. D. Cooper, co. engr., 60 Broad St., Red Bank, N. J., to improve Freehold-Tennant road, also for new bridge at Belford.

Newark, N. J.—Bd. Freeholders Essex Co., Newark, who have received permission from Bd. Freeholders of Passaic Co., Paterson, to change route of Paterson-Hamburg turnpike to allow increase in height of Oak Ridge reservoir dam, have agreed to construct new 30 ft. wide bituminous concrete road, including highway bridge and culvert.

Plainfield, N. J.—Estimated cost of proposed widening of Park Ave. between Second Front Sts. placed between $75,000 and $100,000. Wm. L. Smalley, mayor.

Hazelton, Pa.—City sold $60,000 bonds, Jan. 13, for proposed additional paving and sewer work.

Meadville, Pa.—City intends paving 22 streetsc, some of which are: Chestnut, Hemlock, Garden, North and Poplar.

Pennsylvania.—State Highway Dept. (Wm. R. D. Hall, statistician) intends asking state legislature for $21,000,000 for proposed highway work during 1917 and 1918, divided yearly as follows: Highway constr., $4,000,000; highway maintenance (amount anticipated from automobile tax), $3,000,000; bonuses to townships on cash tax basis, $1,500,000; state aid in road constr., $1,250,000; aid to borough roads, $500,000; turnpike purchases, $250,000.

Reading, Pa.—Edmund B. Ulrich, city engr., in annual report, estimates cost to pave 30 squares of streets between $3,000 and $4,000, or total of $110,000; some of streets, portions of which are recommended for improvement are: Buttonwood, Chestnut, Elm and Reed Sts.

Washington, Pa.—County intends holding special election, probably in March, to vote $1,000,000 good road bonds. J. H. Anderson, representative, Washington Co. Good Roads Assoc., Washington.

Lewisburg, W. Va.—Plans being prepared by W. E. Dougher, engr., Ronceverte, W. Va., for constructing 18 miles of roads, estimated cost $103,000, in Ft. Springs dist.

Smithfield, N. C.—Bonds for $25,000 for road improvement will be sold Feb. 5 by Bd. Co. Comrs. (Saml. Honeycutt, clk.).

Chester, S. C.—City contemplates street improvements that may cost $81,000 and will probably vote on question at May election. J. C. McLure, city atty.

Spartanburg, S. C. — Spartanburg Co. Grand Jury favors issuing $1,000,000 good road bonds; petition to issue same will be presented to State Assembly, Columbia, S. C., in near future.

Bessemer, Ala.—City contemplates paving 16 blocks on 19th St. S. A. Lewis, mayor.

Clayton, Ala.—County Bd. of Revenue intends using county funds for constructing proposed 48-mile national highway from Eufaula via Clayton and Mt. Andrew to Bullock Co. and will solicit state and government aid to carry out work.

Florence, Ala.—County Comrs. Court have appropriated $10,000, as they are entitled to this amount under terms of Bankhead Act, for proposed immediate improvement of sect. of government post road which is also a designated state road, from Killen to Rogersville, also $4,000 for improving west end of this road known as the Waterloo road. $25,000 was also appropriated, to be used with equal amount from State, for completing improvement of Jackson military highway by graveling, from here to State line between Alabama and Tennessee.

Landerdale, La.—Good road bonds for $200,000 will be sold Feb. 20. Address Fred M. Bertant, secy. police jury, Parish St. James, Landerdale.

New Orleans, La.—Paving bonds for $750,000 will be sold Feb. 5 by city.

Greenville, Miss.—Contracts will probably be awarded in near future by county for constructing 100 miles of concrete roads. Local officials, though, considering advisability of constructing 140 miles of 9 ft. concrete roads with gravel shoulders or 157 miles of concrete roads without gravel shoulders but with gravel turnouts at suitable intervals.

Gulfport, Miss.—County intends graveling 18 miles of Dixie Highway, 30 ft. wide, for which $50,000 is available. A. W. Bond, superv., Wiggins, Miss.

Monticello, Miss.—County sold $50,000 road bonds of Beat One. Bd. Supervs. have granted petition in Beat Two for election to vote road bonds. J. H. Tuenisson, co. clk.

Starkville, Miss.—Contracts will be awarded this spring by county for constructing roads in Beat Two, for which $34,000 bonds have been sold; roads will connect with network of rock roads in prairie section of northeast Mississippi. J. R. Long, clk. bd. supervs.

Coltewalh, Tenn.—County has $80,000 for proposed road work in 5 dists. Thomas Ryall, dist. road comr.

Hohenwald, Tenn. — Road and bridge bonds for $100,000 will be sold Feb. 15; address Ernest L. Sprinker, co. clk.

Manchester, Tenn.—County will hold election March 10 to vote $250,000 bonds to grade, macadamize and gravel roads.

Danville, Ky.—City Council (W. O. McIntyre, mayor) who will make definite plans at February meeting to put permanent paving on city's streets, has asked J. W. Merrill, a contractor of Chattanooga, Tenn., to submit bid to pave with wood block on concrete foundation, and with brick using present macadam as foundation. W. P. Caldwell, road engr.

East Bernstadt, Ky.—Surveys being made by J. K. Copley, ch. engr., Bond-Foley Lumber Co., London, Ky., for extending this company's road 12 miles from here to McKee, Ky.

La Grange, Ky.—Road bonds for $50,000 will be sold March 2. Address City Council.

Pine Knot, Ky.—Reported city will vote on $30,000 bond issue for street improvements and for constructing steel bridges on outskirts of town.

Scottsville, Ky.—Contracts will be awarded in March by county for road and bridge work estimated at $50,000. Address Co. Judge.

Cincinnati, O.—Comr. of Pub. Wks. Donnelly estimates cost of proposed street repairs at $113,000, as follows: Resurfacing with asphalt or bitulithic, portions of Scott, $48,000; Third, $16,653; Main, $14,283; streets around City Bldg., with wood block, $10,792; reconstructing portion of Wallace Ave. with asphalt, $18,314, with wood block, $23,980.

Hamilton, O.—Estimate of F. E. Weaver, city engr., for paving East High St. with either brick or asphalt placed at $49,000.

Hamilton, O.—Estimates of Frank Weaver, city engr., for proposed paving of portions of following streets are: High (resurfacing), $28,563; Main, $24,555; Grand Blvd., $11,000, and for S. Monument Ave., Wilson and Ludlow Sts., total of $7,500; portion of Shuler Ave. will also be improved by constructing sanitary sewer, curb and guttering, grading and graveling. City will probably issue $71,618 or more bonds for this work.

Ironton, O.—Contract will be awarded by city about March 1, for constructing 2 miles of cement sidewalks. John Ridgeway, dir. pub. service. Leonard G. Howell, ch. engr., P. O. Box 232.

Lakewood, O.—Plans being prepared by E. A. Fisher, city engr., City Hall, for 100,000 sq. yd. paving on Detroit Ave. and 15 others with brick, sheet asphalt, bituminous concrete, asphalt block, cement concrete, stone or wood block on concrete foundations. N. C. Cotabish, dir. pub. wks.

Springfield, O.—Estimates of M. J. Bahin, city engr., for paving 6 sects of streets placed at $57,000, as follows: With sheet asphalt, asphalt block, asphaltic concrete or bitulithic; 2 sects of High St., total cost $52,919, 1st sect. $5.857 per ft. for 1673 lin. ft., 2d sect. $2.28 per ft. for 5977 lin. ft., Belmont Ave., total cost $10,581; 1st sect., $3.04 per ft. for 1363 lin. ft., 2d sect., $1.42 per ft. for 1214 lin. ft.; with brick, sect. Obenchain alley, $2,049, $1.80 per ft. for 669 lin. ft.; with asphalt concrete, also grading, curbing and guttering sect. Montgomery Ave., $5,330, $4.56 per ft. for 976 lin. ft. Walter J. Barrett, city aud. C. E. Ashburner, city mgr.

Troy, O.—Petition to issue $25,000 bonds for paving road from Troy Center to Hiram town line being circulated.

Warren, O.—County sold $17,000 bonds for roads in Brookfield and Hubbard townships.

LaFayette, Ind.—Petitions being circulated asking Co. Comrs. to pave portions of Main and Fourth Sts. and 3 portions of Tenth St.

Rockport, Ind.—Reported road bonds for $128,000 will be sold Feb. 5 by James A. Haines, Jr., treas. Spencer Co.

Warsaw, Ind.—County Comrs. have received several petitions for improving highways this spring.

Benton, Ill.—Plans being prepared by Putman & Mautz, engrs., Benton, Ill., for paving with concrete at estimated cost of $70,000, roads in Denning and West Frankfort townships; contracts will probably be awarded early in spring.

Herrin, Ill.—City contemplates constructing this year 2 miles of streets with concrete. R. L. Adams, city engr.

West Frankfort, Ill.—Contracts will probably be awarded about March 1 for paving with concrete number of city's streets. P. B. Wilson, engr., Marion, Ill.

Fairfield, Ill.—Election will be held this spring to vote $100,000 for proposed brick paving in city. W. L. McFarland, city engr.

Mondovi, Wis.—City voted Dec. 28, $40,000 pavement bonds. H. B. Pace, city clk.

West Bend, Wis.—County will vote at spring election, on question of issuing $500,000 bonds for constructing reinforced concrete roads. R. A. Kraemer, co. clk.

Keokuk, Ia.—Contracts will soon be awarded for paving 3 miles of streets with vitrified brick this spring.

Tipton, Ia.—City intends paving (material undecided) 50 blocks this spring. M. Tschirgi & Sons, engrs., Cedar Rapids, Ia.

Fairmont, Minn.—City intends paving 24 blocks this year. F. E. Wade, mayor.

County contemplates constructing 39 miles of state roads this year, which includes grading, culvert and bridge work; estimated cost $35,000. Geo. A. Taber, dist. highway engr.

Marshall, Mich.—Reported bonds for $800,000 for constructing roads in Newton Twp. will be sold Feb. 8 by W. A. Cody, clk. Calhoun Co.

Minneapolis, Minn.—To increase permanent improvement fund, Paving Com. of Common Council voted to ask for $200,000 bond issue to pay for city's share of proposed paving work. Some of streets, portions of which will probably be paved with bitulithic, cost of which F. W. Cappelin, city engr., is investigating, are: Franklin and University Aves. and Fourth St.

Kansas.—Federal government has appropriated $2,150,000 to this state for road work during next 5 years, first year's apportionment being $143,207.

Amarillo, Tex.—City will hold election Feb. 15 to vote $50,000 paving bonds.

Beeville, Tex.—City intends paving, probably with vibrolithic, number of streets. C. E. Williamson, mayor.

Brownswood, Tex.—Geo. D. Marshall, U. S. federal engr., Austin, Tex., estimates total cost to improve 9 roads, 174 miles in all, leading into this place, at $499,100, surveys for which have been made.

Center, Tex.—Contracts will shortly be awarded by county for constructing good roads with $120,000 warrants recently voted by Comrs. Court. T. H. Postell, co. judge.

Lockhart, Tex.—Delhi Dist. No. 5 has issued $25,000 bonds to construct macadam and sand clay roads. J. R. Eeds, engr.

Memphis, Tex.—City has retained Henry E. Elrod, Dallas, Tex., as consulting engr. on paving work estimated at $90,000.

San Angelo, Tex.—Bonds for $25,000 for resetting, replacing and repairing present wood block and asphalt macadam pavement will be sold Feb. 15 by city. George J. Bird, mayor.

Victoria, Tex.—City will hold election Feb. 20, to vote $100,000 street paving bonds.

Waco, Tex.—Two different drawings have been completed by Geo. B. Curley, city engr., for proposed opening of Seventh St., one shows street 75 ft. wide, other 50 ft. wide.

Ardmore, Okla.—City rejected all bids received Jan. 9 for paving portions of various streets; new bids will be asked. G. H. Bruce, city clk.

Muskogee, Okla.—County Good Roads Comn. has recommended election be held to vote $1,000,000 bonds to construct proposed roads and bridges.

Ryan, Okla.—Contracts will probably be awarded by county shortly after Feb. 1 to construct 8 miles of roads.

Tulsa, Okla.—City sold $100,000 bonds for constructing proposed modern boulevard system and adding to park system. John H. Simmons, mayor.

Fairfield, Wash.—County Comrs. have been petitioned to pave highway from here, 10 miles long, south to Whitman Co. line; estimated cost between $50,000 and $60,000. A. R. Scott, co. engr., Spokane.

Olympia, Wash.—Plans being prepared by F. A. Wier, co. engr., for constructing 3½ miles of hard surfaced roads between here and Tacoma; estimated cost $28,000.

Astoria, Ore.—Bids will be asked at an early date on various types of paving for about 30 blocks in water-front section of city. A. J. McLean, city engr.

Oakland, Ore.—County Court intends constructing new route, 3½ miles long, on Pacific Highway, north of here. M. B. Garmond, co. surv.; E. H. Lenox, co. clk., both at Roseburg

Encanto, Cal.—City Council has been petitioned to pave with asphalt and concrete, Imperial Blvd., within city limits.

Eureka, Cal.—City intends paving 50,000 yds. on various streets with bituminous macadam at estimated cost of $30,000. G. A. Strand, city engr.

Merced, Cal.—Plans being prepared by C. D. Martin, city engr., for paving 15 blocks of streets and 45 blocks of alleys.

Sacramento, Cal.—State Bd. Control recommends expenditure of $104,000 to construct highway from Yolo Co. to Lake Co. through Cache Creek canyon.

San Francisco, Cal.—Bd. Supervs. intend constructing portion of Parkhill Boule., estimated cost $224,000.

San Jose, Cal.—Plans being prepared by Dept. Pub. Wks. to pave with concrete base with or without covering, 150 miles of dirt roads; principal ones needing improvement are Alum Rock Ave. and Keyes St. T. H. Reed, city mgr.

Santa Barbara, Cal.—Grand Jury has appointed committee to outline plan for constructing system of permanent county good roads, that bonds may be issued to pay cost of proposed work.

Visalia, Cal.—In order to construct 40 miles of road each year for 10 years, Bd. Supervs. have been asked to levy direct tax instead of issuing bonds for this purpose.

Salt Lake City, Utah.—Salt Lake Speedway Assoc. (H. R. Welch, secy., Kearns Bldg.) intends constructing $300,000 automobile speedway.

BIDS DESIRED

Lawrence, Mass.—Until Feb. 1, by Lawrence Bridge Comn. (John J. Donovan, chmn.), Rooms 507-508 Bay State Bldg., for about 9334 sq. yd. granite block pavement on Central Bridge across Merrimack River; certified check for $1,000 to accompany each bid; plans may be obtained from chmn. upon deposit of $5.

Brook Haven, N. Y.—Until Feb. 8, by Clarence E. Dare, town supt. highways, for constructing sections of concrete pavement and appurtenant structures located at Blue Point, Bellport, Lake Ronkonkoma, Mt. Sinai, length about 10,200 lin. ft.; advertised in this issue.

Brooklyn, N. Y.—Until Jan. 31, by L. H. Pounds, pres. Brooklyn Boro., Room No. 2, Boro. Hall, for regulating, grading and curbing portions of Montgomery St.; work includes 17,310 cu. yd. excavation, 40 lin. ft. old curbstone reset in concrete, 1,470 lin. ft. steel-bound cement curb (1 year maintenance); security $2,600; for completing work of laying cement sidewalks on portions of Stillwell Ave., for regulating and grading and curbing portions of Kings Highway and 86th St.; work includes 350 cu. yd. excavation, 460 lin. ft. steel-bound cement curb (maintenance for 1 year), 1190 sq. ft. cement sidewalks (maintenance for 1 year), same of 6-ft. cinder gravel sidewalk foundation; security $300; for completing work of regulating, grading, curbing and laying sidewalks on portions of Tehama St., work includes 2170 cu. yd. excavation, 390 cu. yd. fill (not bid for), 30 lin. ft. old stone curb reset in concrete, 2780 lin. ft. steel-bound cement sidewalks (1 year maintenance), 14,200 sq. ft. cement sidewalks (1 year maintenance), same amount of 6-ft. cinder or gravel sidewalk foundation, security $1,700; also for furnishing and delivering 350,000 gal. asphalt road oil and 250,000 gal. tar road surfacing material to be delivered to any or all railroad stations or public docks in Brooklyn; security 30 per cent for each.

Burlington, N. J.—Until Feb. 7, by Bd. Freeholders (Harry Hawkins, jr., chmn., for improving Moorestown-Camden Pike in Chester Twp.; estimated amount of pavement 31,091 sq. yd., foundation 28,420 sq. yd.; advertised in this issue.

Flemington, N. J.—Until Feb. 15 by Bd. Freeholders, for constructing portions of New Germantown-Lamington Road to be 1 1/16 miles long.

Bloomsburg, Pa.—Until Feb. 5, by Comrs. Columbia and Luzerne Cos. at Court, Wilkes-Barre, for constructing new creosoted paved roadway and sidewalk on inter-county bridge across Susquehanna River between Berwick and Nescopeck; plans may be obtained from David A. Keefe, Athens, at $2 per copy.

New Castle, Pa.—Until Feb. 15 for grading and paving 6 miles of highway with concrete 16 miles. Address Thomas A. Gilkey, engr., 318-322 Mercantile Bldg., New Castle.

Baltimore, Md.—Until Feb. 14, by Bd. Awards (Leonidas G. Turner, chmn. pro. tem.), at office City Register, City Hall, for grading, paving with sheet asphalt, curbing, etc., for Contr. Nos. 142, 143, 144, 145, 146; work includes 273 sq. yd. sheet asphalt, 21,845 sq. yd. vitr. block, 2330 wood block, 2370 sq. yd. granite block, 15,315 granite block redressed; advertised in this issue.

Parkersburg, W. Va.—Until Feb. 21, by city (Allen C. Murdoch, mayor) for 22,004 sq. yd. brick paving, on concrete base with cement grout filler, including new curb; $57,000 has been appropriated. T. L. Higgs, city engr.

Palatka, Fla.—Until Feb. 6, for constructing roads, bridges, culverts and drains in special Road Dist. No. 3. Address Chas. E. Rowton, Palatka.

Perry, Fla.—Reported desired until Feb. 6 by Bd. Co. Comrs. (John C. Calhoun, clk.) for constructing improved highways; work consists of 458,537 lin. ft. roadway, 86.94 miles, 101,545 cu. yd. excavation, 605,406 cu. yd. embankment, 443,693 sq. yd. pavement, 1425 lin. ft. drain pipe, from 15 to 30 in., 363.3 cu. yd. concrete, etc.

Jackson, Miss.—Until Feb. 6 by Co. Bd. Superv. (W. W. Downing, clk.) for grading and graveling 3½ miles between Clinton and Raymond, 6 miles between the Pocahontas Road and Wells Pl., and 3½ miles from Hanging Moss Creek and Madison Co. line.

Port Gibson, Miss.—Reported desired until Feb. 5 by City Clk. for constructing 6 miles concrete sidewalk, for which $20,000 bonds have been sold.

Vicksburg, Miss.—Reported desired until Feb. 5, by J. D. Laughlin, clk. bd. superv., for filling, grading, rolling, etc., and for topping road through Walters; certified check for $5,000 to accompany bid.

Madisonville, Ky.—Reported desired until Apr. 3 by Co. Clk. for constructing 3 miles of 18 to 30-ft. macadam roads.

Tompkinsville, Ky.—Until Mar. 2, for constructing 12 mi. good roads around Tompkinsville; cost about $50,000; address Comrs.

Until Feb. 28, for improving streets; cost about $25,000; address City Council.

Whitley City, Ky.—Until Feb. 28 for street improvements during 1917; cost $30,000. Address City Comrs.

Cadiz, O.—Reported desired until Mar. 15 by Harrison Co. for grading and paving Tippecanoe Road; cost about $16,000. Address Co. Clk.

Indiana.—By County Comrs. for constructing following roads:

Feb. 6:

Crawfordsville, grading, draining and paving with gravel highway throughout county. W. F. Batman, co. aud.

Feb. 7:

Lafayette, two miles stone rock road in Tippecanoe township. Geo. W. Baxter, co. aud.

Muncie, for improving Chas. Parker Rd. in Harrison Twp. Frank Williams, co. aud.

Auburn, fir improving highway throughout county known as the Archie Bowman Rd. with stone. S. P. Nelson, co. aud.

Santa Barbara, Cal.—Until Feb. 1, by A. C. Hall, city clk., for improving streets, in all about 88,000 sq. ft. asphalt, 166 cu. yds. concrete retaining wall, etc.

Lapeer, Mich.—Reported desired until Feb. 9, by Horace W. Davis, chmn. co. road comrs., for constructing 6 miles of 16-ft. Class B gravel state trunk line road.

Berwyn, Ill.—Until Feb. 6, by Bd. Local Improvements (Oscar N. Lindhal, secy.) for constructing concrete combined curb and gutters and paving portions of Clarence Ave., with asphaltic concrete; also for constructing vitr. tile pipe sewer in portions of same ave., total assessment $22,494.59; plans may be obtained from city clk., or from Alex E. Nelson, city atty., 1714 Tribune Bldg., Chicago.

Hoopston, Ill.—For subletting 7 miles brick road and 11 miles or less of concrete road construction. Address Granite City Lime & Cement Co., Hoopston; advertised in this issue.

Naperville, Ill.—Reported desired until March 30 by city for paving streets of west side with concrete; cost about $105,000. C. A. Ashley, city engr.

Waupun, Wis.—Reported desired until Feb. 15, by Bd. Pub. Wks. (J. E. Brinkerhoff, clk.) for 15,000 sq. ft. concrete, reinforced concrete asphaltic, brick or bitulithic paving on Main St. E. B. Parsons, engr., Jefferson.

Hampton, Ia.—Reported desired until Feb. 15 by P. A. Van Pelt, city clk., for 90,000 sq. yd. paving and same amount curbing. T. S. Delay, cons. engr., Lighty Bldg., Creston.

St. Paul, Minn.—Until Feb. 5, by Bd. Co. Comrs. (Geo. J. Reis, aud.), for constructing necessary stone road repairs during 1917; for furnishing and delivering 500 tons or more road asphalt for year 1917; for improving portions of following roads, Robinson Lake, Hamlin Ave., Anoka Co. line, Maple St., and others; also for placing necessary gravel on Washington Co. Line and on Elwell Road and Rice St., extension in Anoka Co.

Leavenworth, Kan.—Until Feb. 6, for paving portions of Broadway St.; work to include 45,000 sq. yd. tar macadam, including removal of 40,000 yd sheet asphalt; cost about $66,150. Fred Metcham, city clk.; H. A. Perkins, city engr., advertised in this issue.

Friday Harbor, Wash.—Reported desired until Feb. 6 by John E. Whitley, co. clk., for constructing 1 mile highway on Lopez Island.

Spokane, Wash.—Until Feb. 1, by Leonard Funk, comr. pub. wks., for constructing sidewalks, paving and grading portions of Nevada St. and Euclid Ave.; certified check for $1,900 to accompany bid.

Seattle, Wash.—Until Feb. 26, by Bd. King Co. Comrs. (Norman M. Wardall, clk.) for constructing permanent highway No. 15; work includes 1⅛ miles one-course concrete pavement between Duvall and Novelty; cost $20,000; certified check for 10% to accompany each bid; plans may be obtained upon deposit of $5; S. J. Humes, co. engr.

Until Feb. 28, by above, for constructing permanent highway No. 3A, involving concrete or brick pavement between Duwamish River and Renton Junction; cost between $75,000 and $125,000; eight alternate propositions will be bid upon, including brick block, brick, monolithic brick on various depths of concrete base, and one-course concrete; roads will be 20 ft. wide, and 33¾ miles long; check and deposit same as above.

Bakersfield, Cal.—Until Feb. 6 by Bd. Superv. (H. I. Tupman, chmn.) for grading and constructing bridges and culverts on Bakersfield-Glenville Road; plans may be obtained from Co. Highway Comn. upon payment of $5; certified check for 10 per cent to accompany each bid.

Modesto, Cal.—Reported desired until Feb. 5, by Hugh Benson, co. clk., for constructing portions of following highways: Keyes, Ceres, Beckwith and Carmichael; total about 14¼ miles.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Amsterdam, N. Y.**—Contract awarded by city (bids opened Jan. 16) to Jos. Dimando, Inc., 382 Mamaroneck Ave., Mamaroneck, N. Y., at $110,180, for paving with asphalt block, 35,000 sq. yds. on Guy Park Ave. Edw. H. Prentice, city engr.

Long Island City, N. Y.—Following are lowest bids opened Jan. 17 by Pres. Boro. Queens for 30,000 cu. yd. broken stone and screenings of trap rock: Pease Bros., 20 Main St., Flushing, $71,700; 14,000 cu. yd. sand, Chas. A. Meyers Co, foot Stagg St., Brooklyn, $17,500; 600,000 gals. of light road oil in tank cars, Standard Oil Co., 26 Bway., New York, $36,000.

★**Wilkes-Barre, Pa.**—Contract awarded by city Jan. 17 to Warner-Quinlan Asphalt Paving Co., Syracuse, N. Y., at about $130,000, for paving with asphalt 18 streets this year; contractor has given a 10-year maintenance guarantee.

★**Hartwell, Ga.**—Contract awarded by A. N. Alford, Hartwell, Ga., to Austin Bros., Atlanta, Ga., for constructing steel toll bridge with concrete piers over Savannah River on line of Hart Co., Ga., and Anderson Co., S. C.

★**Linden, Ala.**—Contract awarded by county (bids opened Jan. 18) to Nixon Smith Constr. Co., Deatsville, Ala., for constructing 8 miles of clay road from Dayton to Thomaston and 2 miles of gravel or sand clay road south to here. A. L. Hasty, probate judge.

★**Barboursville, Ky.**—Contracts awarded by Fiscal Court for road construction work for which $200,000 bond issue was voted, as follows: With stone, section 3 miles long of Dixie Highway, from here to Corbin, to Turner & Mason, at $30,000; section 6 miles long, from here to Bell Co. line, to T. J. Vermillion, at $60,400; and following crowned dirt highways: 4 miles along Stinking Creek to S. T. Jackson, at $20,000; 6 miles to Indian Creek to T. J. Vermillion; also grade and construct 5 miles from Corbin towards Lynn Camp Creek, to J. B. Turner, at $59,300. Contractors all local.

★**Benham, Ky.**—Contract awarded by Co. Comrs., Harlan, to S. H. Stephens, Poorfolk, Ky., at $20,000, for grading and macadamizing road, 1½ miles long, between here and Poorfolk.

★**Jackson, Ky.**—Contract awarded by county (bids opened Jan. 10) to J. G. Blanton, Jackson, Ky., at $60,500, for constructing 4 miles of good roads between here and Quicksand.

★**Prestonsburg, Ky.**—Contract awarded by city (bids opened Jan. 19) to W. M. Garnett, Wayland, Ky., at $49,800, for macadamizing and reconstructing Main and High Sts.

★**Rock Island, Ill.**—Contract awarded by city to Tri-City Constr. Co., Masonic Temple, Davenport, Ia., at $89,100, for paving, excavation and constructing concrete curbs on Ninth St.

★**Algona, Ia.**—Contract awarded by city (bids opened Jan. 11) to J. S. McLaughlin & Sons, Red Oak, Ia., at $65,078 ($1.53 per sq. yd.) for paving 42,534.4 sq. yd. with asphaltic concrete at $24,442 (65 cents per lin. ft.) for constructing 37,450 lin. ft. of 42-in. combined curb and gutter, 2 coat constr., class B, with concrete alley and alley return pavement. Theo. S. De Lay, engr., Creston, Ia.

Brooklyn, N. Y.—Following are bids received Jan. 17 by L. H. Pounds, pres., Boro. Brooklyn, Borough Hall, for resurfacing with asphalt by heater method, 150,000 sq. yd. on portions of streets within dist. bounded on south and east by Hamilton Ave., 15th St., Prospect Park, Malbone St., East New York Ave., East 98th St., Hegeman Ave., New Lots Ave., Dumont Ave., Euclid Ave. and Kills Paths; on north and west by boro. line and East River: (a) Cranford Co., 100 Montague St., Brooklyn, N. Y., $147,907; (b) Borough Asphalt Co., 1201 Metropolitan Ave., Brooklyn, N. Y., $155,920; (c) Uvalde Asphalt Paving Co., 1 Broadway, New York City, $164,337.

	(a)	(b)	(c)
200 lin. ft. old curbstone, reset in concrete	$1.25	$2.00	$1.50
800 lin. ft. old curbstone, reset in sand	0.90	2.00	1.00
400 lin. ft. new curbstone, set in concrete	1.70	1.00	1.75
200 lin. ft. new curbstone, set in sand	1.35	1.50	1.50
400 lin. ft. cement curb	1.75	1.00	0.75
400 lin. ft. granite heading stones, set in concrete	0.85	1.00	2.00
70 cu. yd. concrete	7.50	7.00	7.50
210,000 cu. ft. asphalt wearing surface, delivered and laid; no maintenance (measured in trucks at the plant)	0.675	0.72	0.75
700 cu. ft. binder mixture, delivered and laid (measured in trucks at the plant)	0.675	0.40	0.75
80 water gate boxes to be reset	7.50	2.00	10.00
120 hydrant boxes to be reset	5.00	2.00	5.00
80 sewer manhole heads to be reset	7.50	5.00	10.00
5 new asphalt filled covers and heads for sewer manholes	20.00	18.00	17.50
20 sewer basin sills to be readjusted	15.00	2.00	15.00

★**Baltimore, Md.**—Contract awarded Jan. 24 (bids opened Jan. 10) by Harbor Bd. to Consolidated Engr. Co., Calvert Bldg., Baltimore, Md., at $164,949, for constructing 3d sect. of Key Highway. Following are lowest bidders: Part 1, 135,000 cu. yd. excav., Consolidated Engr. Co., $39,150; Fisher & Catozza, 305 E. Preston St., Baltimore, Md., $39,150; Howard O. Firor, Reisiertown Rd., Baltimore, Md., $44,212; F. B. Beasman, 2307 Beck Lane, Baltimore, Md., $49,950. Part 2, bridge constr., (a) Lawson Constr. Co., Norfolk, Va., $21,474; (b) Consolidated Engr. Co., $24,756; (c) Slingluff Brown Co., $26,062; (d) McLean Contr. Co., Fidelity Bldg., Baltimore, Md., $27,986. Part 3, road work, (b) Consolidated Engr. Co., $101,042; (a) Lawson Constr. Co., $104,403; (e) Baltimore Asphalt Block & Tile Co., Monroe and Lorman Sts., Baltimore, Md., $107,789; (f) W. C. Evans, Ambler, Pa., $122,313.

Part 2

	(a)	(b)	(c)	(d)
94 cu. yd. 1:2½:5 conc. in footings of founds., etc., exclusive of reinforcement	$7.35	$7.63	$7.50	$7.50
830 cu. yd. 1:2:4 conc. in beams, girders, columns, etc., exclusive of reinforcement	9.75	10.67	12.50	9.50
100,000 lb. reinforcing steel in place, exc. balustrade, pedes, etc., above footway level	0.045	0.056	0.06	0.045
167 lin. ft. balustrade above footway level, complete, inc. reinforcing steel	3.00	3.88	3.90	2.00
4,500 cu. yd. excavating for foundations, etc	0.75	1.49	1.45	2.50
3,000 lin. ft. piling, cut off in place, meas. from cut off to point	0.25	0.35	0.45	0.25
2,000 sq. ft. bushhammering, designated exposed surfaces	0.05	0.10	0.15	0.07
9,300 lb. steel in expansion joint plates, const. and fastened in place; temp. structures, driveways, footways, etc., Fort Ave. traffic, complete	0.05	0.10	0.10	0.0525

Part 3

	(b)	(a)	(e)	(f)
28,000 sq. yd. sh. asp. pav., 1½-in. top, 1½-in. bin., 6-in. conc. base, and removal of old material	$1.75	$1.80	$1.80	$2.00
100 sq. yd. gr. bl. pav., 6-in. conc. base, bit. filler, cem. and sand cushion, remov. of old material	3.73	4.00	3.80	4.50
1,030 sq. yd. gr. bl. pav., 6-in. conc. base, cem. filler, cem. and sand cushion, remov. of old material	3.68	3.72	3.60	3.90
4,180 sq. yd. gr. bl. pav., railroad area, 12-in. conc. base, cem. filler, cem. and sand cushion, remov. of old material	4.48	4.22	4.55	4.80
250 sq. yd. v. bl. pav., railroad area, 6-in. conc. base, cem. filler, cem. and sand cushion, remov. of old material	2.65	2.56	2.50	3.00
50 sq. yd. v. bl. repav., railroad area, cem. and sand cushion, cem. filler and remov. of old material	0.55	0.10	0.75	2.00
500 sq. yd. cobblestone repaving	0.40	0.40	0.65	1.00
10,760 lin. ft. ar. conc. curb and circles in place	0.55	0.67	0.75	0.80
410 lin. ft. old stone curb and circles redressed and reset	0.40	0.40	0.40	0.65
100 sq. ft. old flagstones re'd and re's on sand base	0.10	0.01	0.30	0.10
50 lin. ft. old g. b. or v. b., furn. by city, set as headers, 6-in. conc. base, cem. filler, cem. and sand cushion and remov. of old material	0.35	0.40	0.30	2.00
25 sq. yd. w. b. liners, 6-in. conc. base, bit. filler, mortar cushion and removal of old material	0.32	4.00	4.25	5.00
960 sq. yd. v. b. gutters, 6-in. conc. base, cem. filler, mortar cushion and remov. of old material	2.65	2.60	2.35	3.00
1,010 cu. yd. 1:3:6 concrete in place, railroad track, etc	6.10	5.25	8.50	6.00
2,010 lin. ft. laying straight track	2.00	1.37	1.10	3.00
2,125 lin. ft. laying curved track	2.20	1.75	1.25	3.00
4 switches complete, laying	110.00	187.25	100.00	225.00
42,900 sq. ft. constructing cement footways	0.14	0.09	0.16	0.17
100 sq. ft. remov. and renew brick footways	0.10	0.01	0.10	0.10
3,000 cu. yd. grading and preparing subgrade surface in street and railroad area	0.55	1.00	0.65	1.00
20,000 sq. ft. credit old cobble and gutter stone	0.00	0.05	0.0001	0.05
2,000 lin. ft. credit old curb	0.00	0.20	0.0001	0.10
500 sq. ft. credit old flagstone	0.00	0.10	0.0001	0.05

★**Independence, Ia.**—Contract awarded by city Jan. 10 to Reinking Contr. Co., Des Moines, Ia., at $100,000 ($1.51 a yd. for paving, $0.52 for curbing) for paving 53 blocks in business and residence dists.

★**Knoxville, Ia.**—Contract awarded by county (bids opened Jan. 18) to International Steel & Iron Co., Evansville, Ind., at $49,973, for constructing 9 bridges and 44 culverts. W. O. Price, co. engr.

★**Sac City, Ia.**—Contracts awarded by county (bids opened Jan. 17) to Des Moines Bridge & Iron Co., Des Moines, Ia., at $15,370, for constructing 3 truss, 2 I-beam span and 1 box culvert bridges; to Omaha Structural Steel Works, Omaha, Neb., at $12,007, for constructing 9 I-beam span bridges. W. D. Maxwell, co. engr.

★**Butte, Mont.**—Contract awarded by city to J. C. McGuire at $81,556, for paving 26,856 sq. yd. on Montana St. with bitulithic; also constructing 7066 lin. ft. gutters, 300 ft. combined curb and gutter, 20 catch basins, 12 concrete manholes and laying 4165 lin. ft. vitrified pipe.

★**Fort Smith, Ark.**—Contract awarded by city to Cleveland Trinidad Paving Co., 3409 Trumbull St., Cleveland, O., at $12,499, for paving 9,553 sq. yds. with asphaltic concrete on 4-in. concrete base and constructing 8,797 lin. ft. 6-in. concrete curbing in Dist. No. 12. Henry Kuper, Jr., acting mayor.

★**McKinney, Tex.**—Contract awarded by city to Kaw Paving Co., Topeka, Kan., at $33,000, to pave 1¼ miles of streets.

★**Glen Rose, Tex.**—Contract awarded by county to N. A. Dawson, San Antonio, Tex., for grading and graveling about 40 miles of roads. Co. Comrs. have issued $25,000 road and bridge warrants.

Ardmore, Okla.—See "Roads and Paving, Proposed."

★**Tulsa, Okla.**—Contract awarded by city to Parker-Washington Co., 6161 Maple Ave., St. Louis, Mo., at $113,637, for paving 44 blocks with asphalt.

Everett, Wash.—Lowest bid received by county for constructing permanent highways Nos. 11 and 22, was from P. J. McHugh, Mercer St. and Third Ave., North, Seattle, Wash., at $125,000.

★**South Bend, Wash.**—Contract awarded by county to A. J. Scott, Astoria, Ore., at $14,757, for constructing portion of Nasel-Knappton highway.

★**Bakersfield, Cal.**—Contract awarded by city (bids opened Jan. 15) to Thompson Bros., Fresno, Cal., at $16,948, to pave with sheet asphalt on concrete base and construct concrete curbs, cement walks and concrete culverts on portion of 29th St.

★**Fillmore, Cal.**—Contract awarded (bids opened Dec. 30) by city to Crown Constr. Co., Culver City, Cal., at $16,153, for grading 2760 lin. ft., 40 ft. wide roadway and constructing 22,763 lin. ft. cement curb and 114,840 sq. ft. cement sidewalks.

★**Los Angeles, Cal.**—Contract awarded by Bd. Pub. Wks., to Fairchild-Gilmore-Wilton Co., Pacific Elec. Bldg., Los Angeles, at $17,111, for improving portion of Virgil Ave.

★**Modesto, Cal.**—Contracts awarded (bids opened Jan. 9) by Bd. Supervs. for constructing 16-ft. concrete highways, as follows: Central Paving Co., Modesto, at $56,000, for 5.4 miles of Paradise Road leading into here; Gaskell & Foley, Stockton, Cal., at $44,000, for 4 miles of Maze road west of here; Western Constr. Co., Oakland, Cal., at $43,500, for 4.43 miles of Waterford to Empire road.

★**Mill Valley, Cal.**—Contract awarded by city to Ransome-Crummey Co., First Savings Bank Bldg., Oakland, Cal., at $86,224, for improving several streets.

RAILWAYS
Steam and Electric

PROPOSED WORK

Hartford, Conn.—Committee appointed by council to ascertain advisability of removing tracks of Central New England R. R. Co., here reported, by Bd. Aldermen, would cost $380,000; removal of these tracks would permit the construction of new main highway through city.

Oswego, N. Y.—Empire United Ry. (Wm. B. Voth, ch. engr., Syracuse) plans double tracking its lines on W. 1st St. from Bridge to Utica Sts.; cost about $30,000.

White Plains, N. Y.—New York, Westchester & Boston Ry. (E. J. Langford, ch. engr., 180th St. and Morris Park Ave., Bronx) planning extension from White Plains to Danbury, Conn.

Trenton, N. J.—Bd. Pub. Utility Comrs. reported to have ordered elimination of grade crossings on Philadelphia & Reading R. R. (S. T. Wagner, ch. engr., Philadelphia) at Asylum Road, near Trenton Junction.

Coatesville, Pa.—Philadelphia & Reading R. R. Co. (S. T. Wagner, ch. engr., Philadelphia) considering elevation of tracks across Lincoln Highway in business district, to eliminate present grade crossing. Chamber of Commerce reported interested.

Coatesville, Pa.—Coatesville Trolley Co. (H. O. Schotter, pres.) incorporated to construct 5-mile trolley line capital, $30,000.

Philadelphia, Pa.—Stockholders of Pennsylvania R. R. Co. (Alex. C. Shand, ch. engr.) will be asked to authorize an increase of $75,000,000 indebtedness and will shortly begin work on contemplated improvements, including extension of passenger terminal facilities and constructing a new station.

Reading, Pa.—Reported that trolley line will be constructed between Hershey and Reading, touching Jonestown, Fredericksburg, Bethel, Rehrersburg, Strausstown, Bernville and Mt. Pleasant.

Steelton, Pa.—Reported Pennsylvania R. R. (A. C. Shand, Ch. Engr., Philadelphia) plans erecting local freight and classification yards to cost about $200,000. Yards will be used for shipping from Bethlehem Steel Co.

Martinsburg, W. Va.—Surveys being made for proposed electric railway from here through Jefferson County and into London County to connect with Washington & Old Dominion Ry. (W. B. Emment, gen. mgr., Washington, D. C.), which operates a line from Washington to Bluemont, Va. Martinsburg Power Co. reported interested.

Lenoir, N. C.—Residents of Caldwell County and town of Lenoir are interested in extension of Wautauga & Yadkin River R. R. (H. C. Landon, ch. engr., North Wilkesboro) from Grandin to Lenoir, by way of Kings Creek.

Atlanta, Ga.—Question of double tracking Western & Atlantic R. R. (J. A. Baldwin, supt.), from here to Cartersville, reported being considered.

Cairo, Ga.—Citizens will be asked to subscribe sufficient stock necessary to construct a railroad from Cairo 10 miles northward to connect with a lumber road built by J. N. Cater Co., from Hansell and which it is proposed to extend via Meigs into Moultrie. W. B. Roddenbery, of Cairo, chmn. of com.

Miltonberg, La.—Miltonberg & Southeastern R. R. Co., incorporated with capital of $100,000 for constructing line from Miltonberg to connect with St. Louis, Iron Mountaing & Southern at a point 8 miles south of here; also from Milton to Leesville, about 45 miles. W. D. Brewer, pres.

Meridian, Mis.—Election will be held by city Feb. 6 on the question of issuing $25,000 bonds for Meridian & Bigbee River R. R.

Chattanooga, Tenn.—Plans for constructing 13 miles of railroad into coal producing section of Grundy Co. have been approved by President Peyton of Nashville, Chattanooga & St. Louis R. R. Co. Line will be extension of Tracy City branch.

Lexington, Ky.—Kentucky Traction & Terminal Co. (Geo. McLeod, ch. engr.) planning expenditure of $200,000 for improvements and extensions during 1917.

Canton, O.—Northern Ohio Traction Co. (Chas. Currie, ch. engr., Akron) has been granted a franchise from Council to extend its lines in Belden Ave. N. E. and 8th St. N. E., Belden Ave. S. E., both lines to connect with Tuscarawas St. E. line.

Huntington, Ind.—Reported Cincinnati, Bluffton & Chicago R. R., which was sold to J. M. Wilson of Chicago, Ill., will be taken over by New York Central R. R. (G. W. Kittredge, ch. engr., New York); line will be extended south from Portland to Richmond and north to Goshen.

Springfield, Ill.—Springfield-Carbondale Ry., incorporated to construct an electric railway from Springfield to Carbondale, via Hillsboro, Carlyle, Nashville and Pickneyville; capital $100,000.

Milwaukee, Wis.—Press reports state that work will probably begin this summer on construction of Milwaukee Western R. R. between here and Alderley. Directors, Alvin P. Kletzsch, Milwaukee; Gustav. Meissner, Oconomowoc; John Steel, Alderley.

Anoka, Minn.—Twin City Belt Line Ry. Co. will construct line to Inver Grove; incorporated with $100,000. Louis W. Hill, pres. Great Northern Ry., St. Paul, interested.

Junction City, Kan.—Union Pacific R. R. Co. (R. L. Huntley, ch. engr., Omaha, Neb). will spend $20,000 during current year in constructing 5 new side tracks and lengthening 5 others in local yards.

Wichita, Kan.—Wm. R. Burr, Washington, D. C., is reported interested in constructing an electric railway to connect Wichita with oil fields of Augusta and El Dorado.

Fort Smith, Ark.—E. G. Gossett, pres. Ozark Forest Locating & Realty Co., Jasper, reported interested in construction of Arkansas link of "St. Louis Air Line" railroad, connecting lead and zinc fields of North Arkansas and South Missouri with Fort Smith.

Ozark, Ark.—Ozark & Arkansas Midland R. R. Co., reported organized with capital of $750,000, active construction on first 50 miles will be started at once. G. G. Wright, Jr., pres., Rogers, Ark; H. T. Henderson, secy., Dallas, Tex.

North Roby, Tex.—See "Structural Steel."

San Antonio, Tex.—International & Great Northern R. R. (O. H. Crittenden, ch. engr., Houston) plans constructing new yard here to have 7 miles of tracks.

Northport, Wash.—Electric Point Mining Co. (Roy Young, gen. mgr.) plans constructing railroad to connect mine with Great Northern Ry. at Northport or Boundary, 15 miles; cost $200,000.

Portland, Ore.—Southern Pacific Co. (F. L. Burkehalter, ch. engr.) reported considering construction of a line between Portland and Salem.

Grass Valley, Cal.—Empire Mines Co. has received permission from Bd. of Supervisors to construct an electric railway to connect Empire and Pennsylvania Mines.

Las Vegas, Nev.—Salt Lake R. R. Co. (A. Maguire, ch. engr., Pacific Electric Bldg., Los Angeles, Cal.) will in 1917 make improvements, including following: 200 miles 90-lb. rails, $50,000; ballast, $25,000; improving water supply here $390,000; automatic block signals, $120,000; bridges, including concrete arch over Sevier River at Lynndyl, Utah, steel span over Clover Valley Wash in Nevada, $1,400,000 for 24-mile branch from Santa Ana, Cal., to Pico.

Casa Grande, Ariz.—Reported standard gage railroad contemplated from Casa Grand to Lake Shore mine, 14 miles south of here. E. P. Ryan, mgr., Lake Shore mine.

Lewiston, Idaho.—Reported Chicago, Milwaukee & St. Paul R. R. Co. (C. F. Loweth, ch. engr., Chicago, Ill.) plans extending its line from Elk River to a point on North Fork River above Dent.

Wallace, Idaho.—Shoshone & Clear Water Ry. Co. filed articles of incorporation at Wallace; capital $50,000. Co. will construct railroad 33 miles long, connecting with main line of Chicago, Milwaukee & St. Paul Ry. near Marble.

BIDS DESIRED

Brooklyn, N. Y.—Until Feb. 7 by Pub. Serv. Comn. (Oscar S. Straus, chmn.), 120 Broadway, New York City, for relocation and construction of part Nassau Electric R. R. on New Utrecht Ave.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Philadelphia, Pa.**—Contract awarded by Dept. Pub. Wks. to E. H. Vare. Lincoln Boulevard, for elevation of tracks in South 25th St., at $230,998.

Wamsutter, Wyo.—Contract awarded by Union Pacific R. R. Co., to Utah Constr. Co, Ogden, Utah, for grading work on its Wyoming division, including construction of second track between here and Point of Rocks, a distance of about 52 miles; also for work between Buford and Hermosa, including boring a new tunnel 1,800 ft. paralleling the present one through Sherman Hill.

★**Fort Worth, Tex.**—Contract awarded to John Scott & Son, Pierce Bldg., St. Louis, Mo., for extensions of the Crosbyton, South Plains and Santa Fe railroad from Lubbock to Blythe, a distance of 65 miles.

★**San Diego, Cal.**—Contract reported awarded to Utah Constr. Co., Ogden, Utah, for constructing 20 miles of railway through the mountains east of San Diego to connect San Diego & Eastern Ry. with Southern Pacific's Imperial Valley line; cost about $1,000,000.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK

Cranston, R. I.—Reported Langelier Mfg. Co., 67 Clifford St., Providence, will erect brick factory building to cost $125,000.

Wallingford, Conn.—Reported plans being prepared for erecting 4-story 270 x 100 ft. factory buildings for Wallace & Sons Manufacturing Co. (Chas. D. Morris, gen. mgr.); cost from $75,000 to $80,000.

North Tonawanda, N. Y.—Plans being being prepared by Wm. Steele & Sons, 1600 Arch St., Philadelphia, Pa., for erecting factory building and warehouse for Buffalo Sled Co.; cost $150,000. J. J. Snyder, pres., Schenk St., Tonawanda, N. Y.

Schenectady, N. Y.—Reported General Electric Co. will erect $250,000 foundry which will employ 1,000 additional men.

Camden, N. J.—Reported Campbell Soup Co. (Dr. John T. Dorrance, pres.) plans enlarging plant on N. 2nd, Arch and 2nd Sts.; to cost several hundred thousand dollars.

Elizabeth, N. J.—Reported business men of this city plan erecting industrial building to cost $150,000. Address Victor Mravlag, Mayor.

Allentown, Pa.—Reported Lehigh Portland Cement Co. has authorized increase in capital from $12,000,000 to $18,000,000 for extensions. Company has purchased plant of Iola Portland Cement Co., Iola, Pa., making total of 15 mills operated. Col. H. C. Trexler, pres.

Brownsville, Pa.—Plans were prepared by G. K. Orr, Brownsville, for erecting 1-story 166 x 200-ft. machine and erection shop, cost $150,000, for Monongahela R. R. Co. (G. B. Obey, gen. supt., Market St.)

Chester, Pa.—Reported Westinghouse Elec. & Mfg. Co., Widener Bldg., Philadelphia, plans erecting plant on 500-acre site between Lester and Essington; bonds to the extent of $15,000,000 will be issued to pay for building and machinery.

Reported Worth Bros., Widener Bldg., Philadelphia, will erect another big steel mill to cost $2,000,000. Site is just below Chester and beyond country line.

North Philadelphia, Pa. (Ind. Sta. Phila.)—Reported Scientific Equipment Co., 2951 N. 27th St., Phila., taking bids for erecting 3-story and basement, stone, brick and terra cotta warehouse to cost $200,000. Armando Alcantara, archt.

Pittsburgh, Pa.—Reported National Biscuit Co. will erect 7-story fireproof, 200 x 300 ft., building. Plans will be ready for bids soon.

Middlesboro, Va.—Reported Virginia Iron, Coal & Coke Co. will erect iron ore roasting plant at Middlesboro Furnace to cost $50,000.

Parksburg, W. Va.—Reported Imperial Ice Cream Co. will erect ice cream manufacturing plant; cost $50,000.

Greenville, S. C.—Plans being prepared by local architects for enlarging and doubling in size present plant of Union Bleaching and Finishing Co.; cost $250,000.

New Orleans, La.—Reported Robt. Wiegand Pickle Co. plan erecting pickle factory; cost $100,000.

Kingsport, Tenn.—Reported Federal Dye Plant is making extensive plans for erecting brick and steel buildings and other improvements, to cost $5,000,000.

Kingston, Tenn. — Reported DeCamp Glass Casket Co., Memphis, plans erecting plant to cost $150,000.

Cincinnati, O.—See "Reinforced Concrete."

Cleveland, O.—Reported plans are being prepared by L. N. Gross Co., 1250 Ontario Ave., for erecting factory at southeast corner of West 3rd St. and Lakeside Ave.; cost $150,000.

Fort Wayne, Ind.—Reported Brass Foundry & Machine Co. plans erecting large gray iron foundry on half square of land north of Wallace St. and west of Weisser Park Ave., 250 x 150 ft.

Chicago, Ill.—Reported McCormick estate will erect for Currier-Lee Co., 827 W. Erie St., a 7-story 128 x 100-ft. heavy mill constructed building to cost $140,000, on estate's remaining vacant land in Erie St. west of Orleans St.

Cudahy, Wis.—Reported Federal Rubber Manufacturing Co. will erect $200,000 addition to power plant here.

Dubuque, Ia.—See "Reinforced Concrete."

St. Paul, Minn.—See "Buildings."

St. Paul, Minn.—Plans being prepared by H. A. Sullwold, 614 Endicott Bldg., for erecting 3-story and basement addition to factory of H. L. Collins Co.; cost $55,000.

St. Paul, Minn.—Reported $1,000,000 warehouse and freight yard in St. Paul at Midway is being planned by W. L. Brackett, 1115 Merchants Bank Bldg.

Eldorado, Kan.—Reported W. G. Skelly, Tulsa, Okla., and W. Irvin Osborn, Chicago, banker and capitalist, have secured an 80-acre site southwest of city and will erect $300,000 refinery.

Omaha, Neb.—Plans being prepared by John McDonald, 908 Omaha Nat'l Bank Bldg., Omaha, for erecting factory for M. F. Schafer Co.; to cost $150,000.

Kansas City, Mo.—Plans were prepared by H. H. Hill, 5608 E. 11th St., for erecting 1-story and basement, 75 x 116 ft. factory building; cost $100,000. Walls Frogless Switch Company, owners.

Kansas City, Mo.—Reported Sinclair Oil Co. will erect factory to cost $3,000,000.

Poplar Bluff, Mo.—Reported Butler Iron Co., recently incorporated, will erect blast furnace, concentrating plant and chemical plant to cost about $680,000. W. W. Mechling, pres., Rookery Bldg., Chicago, Ill.

Portland, Ore.—Reported American Can Company plans erecting large building near present plant at N. 14th and Front Sts., to cost considerably over $100,000.

Oakland, Cal.—Reported Paraffin Paint Co. purchased 9 acres adjoining present plant at foot of Powell St., and will erect addition to cost $250,000.

Halifax, N. S.—See "Foundation Piers and Dams."

Windsor, Ont.—Plans being prepared by A. H. Brener, 362 Dufferin Ave., London, Ont., for erecting 6-story cigar factory, white and red brick construction, and white brick garage; all to cost $75,000; bids will be called about March 1.

BIDS DESIRED

Homestead, Fla.—Until Feb. 5, by Town Council, for erecting municipal electric light plant; advertised in this issue. W. B. Caves, town clk.

Miami, Fla.—Until Feb. 15, by W. B. Moore, city clk., for erecting transfer warehouse, creosoted wood block or reinforced concrete floor, and also for furnishing hand power 15-ton capacity traveling crane; advertised in this issue.

Vallejo, Cal.—Until Feb. 26, by Bureau Yds. and Docks (F. R. Harris, ch.), Navy Dept., Washington, D. C., for extension machine shop building No. 87, having steel framework and reinforced concrete roof for Mare Island Navy Yard.

PRICES AND LETTINGS

★Indicates award of contract.

★Camden, N. J.—Contract awarded by MacAndrews & Forbes Co., Camden, to Barclay, White & Co., 1530 Chestnut St., Philadelphia, Pa., for erecting 2 buildings, one 101 x 44 ft. and one 97 x 56 ft., in addition to present plant here.

Cincinnati, O.—See "Reinforced Concrete."

Casa Grande, Ariz.—Reported plans being prepared for erecting concentrating plant at Lake Shore mine south of Casa Grande. E. P. Ryan, Mgr.

Quartzite, Ariz.—Reported King Placer Consolidated Mining Co. plan installing dry placer near Quartzite to work Plomosa placer fields; cost of plant $500,000. Lycurgus Lindsay, Los Angeles, vice-pres.

Iroquois Falls, Ont.—See "Foundations, Piers and Dams."

BUILDINGS
Public and Private

PROPOSED WORK

Boston, Mass.—Reported Mayor E. Curley will recommend $65,000 plans in preference to $80,000 building plan for police station to be located in yard of Public Works Department on Hyde Park Ave., near River St.

Boston, Mass.—Reported Mayor Edw. Curley has announced plans are being prepared for erecting $200,000 municipal building on Brookline St.

Brockton, Mas.—Reported H. E. Cline, 43 Tremont St., will erect 6-story, 60 x 150 ft., public garage of brick construction on Center St.

Chicopee Falls, Mass.—Reported Polish Home Assn. will erect 5-story, 125 x 200-ft. hall and business block; cost $70,000.

Springfield, Mass.—Reported W. J. Burns, Springfield, will erect 4-story, 70 x 90-ft. brick hotel building on Spring St.

Worcester, Mass.—Reported B. I. Coonen, 45 Millbury St., will erect 3-story brick theatre and office building, to cost $65,000.

Central Falls, R. I.—City has requested permission from Legislature to issue $125,000 bonds for erecting high school building.

Providence, R. I.—Reported General Assembly (Gilbert R. Parker, Secy., Bd. of Control, State House), will make plans for spending $850,000 (bond issue authorized) in erecting and repairing of charitable and penal institutions.

Willimantic, Conn.—Reported Jordan Bros., Main St., having plans prepared for erecting 5-story and basement, 100 x 70-ft. brick business block.

New Rochelle, N. Y.—Plans being prepared by Lawrence L. Barnard, 46 Lawton St. for erecting 5-story 33 x 90-ft. Masonic Temple; cost $60,000. Prince Hall Bldg. Assn, owner.

Atlantic City, N. J.—Reported Congress has appropriated $60,000 for erecting addition to postoffice on Pennsylvania Ave. Wm. B. Loudenslager, postmaster.

Cape May, N. J.—Reported Bd. Educ. will issue $70,000 bonds for erecting new high school building. William Porter, city clerk.

Freehold, N. J.—Reported Bd. Educ. plans erecting new high school to cost $60,000 A. L. Moreau, Pres. Bd. Educ.

Highstown, N. J.—Reported Bd. of Corporators of Peddie Institute are preparing plans for erecting new administration hall; cost $125,000. Address Dr. Swetland, pres.

Jersey City, N. J.—Reported Lehigh Valley R. R. Co. (E. B. Ashby, ch. engr., New York) plans erecting new terminal building to cost about $15,000,000.

Newark, N. J.—Reported city will issue $190,000 bonds for erecting building of police headquarters. A. Archibald, city clerk.

Red Bank, N. J.—Reported Bd. Educ. will vote on issuing of $170,000 bonds for erecting 16-room building adjoining present high school and 16-room school building to replace grammar school; cost $170,000.

Bethlehem, Pa.—Reported Bd. Educ. will erect 3 new school buildings to cost $250,000.

Bethlehem, Pa.—Reported Bd. Educ. plans purchasing site for three new schools to cost about $250,000.

Reported Weston-Dodson Coal Co. has purchased site and will erect office building; to cost about $100,000.

Chester, Pa.—Plans were prepared by Clarence W. Frazier, 1133 Broadway, New York, for erecting 2-story 50 x 100 ft. City Hall Building to cost $75,000. W. B. McDowell, Mayor.

Darby, Pa.—Plans being prepared by H. L. Reinbold, Jr., 1309 Walnut St., Philadelphia, for recting 2-story stone school building; cost $120,000.

Easton, Pa.—Reported Easton Loyal Order of Moose will erect clubhouse to cost $50,000.

Haverford, Pa.—Plans have been completed for Sharpless Hall Bldg. at Haverford College; cost $85,000.

Holmesburg, Pa.—Plans were prepared by Chas. E. Oelschlager, 1615 Walnut St., Philadelphia, Pa., for erecting additions and alterations to House of Correction; cost $100,000.

Lewistown, Pa.—Plans being prepared by J. B. Hamme, York, Pa., for erecting 3-story and basement, 80 x 135-ft. Y. M. C. A. Bldg.; cost $75,000.

Media, Pa.—Plans being prepared by Henry L. Reinhold, Jr., for erecting 2-story building for Upper Darby Twp. Bd Educ.; cost about $125,000.

Philadelphia, Pa.—Reported campaign will be carried on today by Temple University Assn., of Philadelphia. (T. Trigg, chairman), for raising $500,000 toward erecting Temple University; $100,000 will go to Samaritan Hospital, which is part of university.

Reported Bd of Directors of Germantown Hospital, Germantown, Philadelphia, will erect fireproof building to cost about $100,000.

Philadelphia, Pa.—Plans for following are being prepared: By Folsom & Stanton, 1328 Walnut St., for erecting 10-story 18 x 90 ft. office building for J. M. Hutchins, 7328 Walnut St. By Horace Trumbauer, Land Title Bldg., for erecting 200 x 340 ft. stone and concrete library building at 19th and Vine Sts; rebuilding West Walnut St. Presbyterian Church at Walnut near 40th St. recently damaged by fire with loss of $150,000. Rev. J. A. McCallum, pastor.

Philadelphia, Pa.—See "Reinforced Concrete."

Philadelphia, Pa.—See "Railroads."

Tamaqua, Pa.—Reported School Bd. plans erecting high school to cost about $100,000.

Yeadon, Pa.—Special election will be called Feb. 10 to vote on bond issue of $65,000 for erecting new school building.

Washington, D. C.—Reported James L. Karrick will erect 7-story apartment and office building at 1817 G St., N. W.; cost $150,000. Gregg & Leinsenring, archts., 1320 New York Ave., N. W.

Wilmington, Del.—Reported Y. W. C. A. will erect new building; $100,000 to $200,000 necessary now available.

Clifton Forge, Va.—Bonds for $80,000 for bridge, school and fire equipment will be sold Feb. 1 by city (T. P. Halloran, chmn. finance committee).

Morgantown, W. Va.—Plans being prepared for erecting 3-story 86 x 188 ft. agricultural building and 3-story 43 x 220 ft. dormitory for University of West Virginia.

Asheville, N. C.—Reported election will be held for issuing $100,000 bonds for completing high school building.

Jacksonville, Fla.—See "Reinforced Concrete."

Nashville, Tenn.—City considering issuing bonds for following proposed improvements: $100,000, remodeling Albert E. Hill Grammar School on Eighth Ave.; $50,000, completing Warner School Bldg.; $50,000, erecting and equipping fire hall in Waverly-Belmont section.

Cleveland, O.—Reported Odd Fellows Assn., 417 Marison Bldg., will erect temple on E. 79th St. and Whitehorn Ave., N. E.; cost about $55,000.

Lakewood, Ohio.—Reported Longacre Bldg. Co. (Phil. B. Isaac, 1383 E. Boule., secy.) will enlarge Tavistock Hotel, 1007 Huron Road; cost $250,000.

Mount Pleasant, Ohio.—Election will be held in January for issuing of $90,000 bonds for new school building.

Rocky River, O.—Plans about completed for erecting 2-story and basement, 80 x 120-ft. high school building to cost $60,000. W. H. Nicklas, 1900 Euclid Bldg., Cleveland, archt.

Ft. Wayne, Ind.—Plans being prepared by Charles R. Weatherhogg for erecting 6-story and basement 46 x 150 ft. new hospital for Hope Hospital asso.; cost, $125,000.

Flint, Mich.—Plans were prepared by Smith, Hinchman & Grylls, 710 Washington Arcade, Detroit, for erecting 6-story and basement, 150 x 195 ft. hotel building; cost $700,000. Citizens' Hotel Co., W. E. Wood, Ford Bldg., Detroit, owner.

Kalamazoo, Mich.—Plans being prepared by Louis Kamper, 701 Fine Arts Bldg., Detroit, for erecting Manual Training Building, 1 and 2-story, to cost $75,000. Western State Normal, owner, care D. B. Waldo, Davis St. and Walnut Pl.

Muskegon, Mich.—Reported Bd. of Directors of Union Nat'l Bank late Tuesday decided to erect 6-story office building on present site of bank structure, located in center of Muskegon's business district; cost about $200,000.

Bloomington, Ill.—Reported Moose Lodge plans erecting $50,000 home. Address Secy. Moose Lodge.

Monmouth, Ill.—Plans being prepared by F. A. Flaks, State Archt.'s office, Chicago, for Monmouth armory, to cost $50,000. Building will be 114 x 182 ft. with drill hall, 80 x 119 ft.

Mount Carmel, Ill.—All bids received Dec. 26 by Chas. A. Wetmore, Act. Superv. Archt., Treasury Dept., Washington, rejected as being too high. Work will be later readvertised.

Oak Park, Ill.—H. J. Schlacks, 4302 Sheridan Rd., Chicago, is revising plans for erecting St. Edmund's School, to be 2-story and basement, 75 x 162-ft. building; cost $75,000.

Hurley, Wis.—Plans being prepared by C. J. Anderson & Co., Green Bay, Wis., for erecting $50,000 addition to school building. J. M. Davis, Secy. Bd. Educ.

Racine, Wis.—Election will be held in spring for issuing $50,000 bonds for armory and auditorium. Chas. A. Ryba, clk.

Waukesha, Wis.—Plans being prepared by McElroy & Kinport, Essex Bldg., Minneapolis, Minn., for erecting factory building for Waukesha Spring Water Co., to cost $100,000.

Milwaukee, Wis.—Plans being prepared by Leiser & Hoist, Germania Bldg., for erecting apartment building for John Hunholz, 2310 Vliet St.; cost $50,000.

Reported 16 Milwaukee lodges of Knights of Pythias plan erecting building to contain lodge rooms and offices; cost between $200,000 and $300,000.

Cedar Rapids, Ia.—Iowa State Savings Bank will erect new 48 x 75 ft. bank building at 12th Ave. and S. 3rd St., cost $50,000. V. O. Kesek, pres.

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Sioux City, Ia.—Plans being prepared by Wm. L. Steele, 502 United Bank Bldg., for erecting store of brick construction for S. S. Kresge Co., to cost $150,000.

Lakefield, Minn.—Plans being prepared by Kirby T. Snyder, 1133 Plymouth Bldg., Minneapolis, for erecting school building to cost $75,000.

St. Paul, Minn.—Reported Theodore Anderson, 1435 Thomas St., will erect 5-story northwestern Furniture and Stove Exposition Building at University and Raymond Aves., to take place of building recently destroyed by fire; cost $115,000.

Reported L. C. Henry, 3121 Columbus Ave., Minneapolis, will erect 3-story brick, steel and reinforced concrete store and flat building on recently acquired property on W. 6th and W. 7th Sts., near Franklin St.; cost $70,000.

Plans being prepared by H. A. Sullwold, 614 Endicott Bldg., for erecting stores and cigar factory to cost $50,000 at University Ave. and Fry St., for Kuhles & Stock Co., 282 E. Seventh St.

Reported Northwestern Co. will erect 3-story addition to office and exchange building on Cedar and 5th Sts.; cost about $70,000.

Wichita, Kan.—Reported Wesley Methodist Episcopal Hospital board (E. H. Eberhardt, Pres.), will erect new $125,000 hospital.

Hastings, Neb.—School bonds for $200,000 will be sold Feb. 12 by Bd. Educ. (Henry E. Davidson, secy.)

Lincoln, Neb.—Plans were completed by Berlinghoff & Davis, 610 Security Mutual Life Bldg., for erecting brick, stone and terra cotta department store for Rudge & Gunzel, 11th and O Sts.; to cost $400,000.

Butte, Mont.—Reported J. M. Warren, archt., Butte, will receive bids after Feb. 10 for 3-story hotel; cost $75,000. Ben Bank Realty Co., owners.

Dillon, Mont.—Reported J. M. Warren, archt., Butte, will receive bids after Jan. 20 for erecting $75,000 hotel. H. E. Andrus, owner.

Basin, Wyo.—Plans being prepared by W. N. Bouman, 916 Central Savings Bank Bldg., Denver, Colo., for erecting 3-story, 60 x 80-ft. court house; cost $60,000. Bids will be received in March.

Wheatland, Wyo.—Bonds for $50,000 for purpose of erecting courthouse and jail will be sold by Feb. 9. Bd. Co. Comrs. A. E. Hoffman, chmn.).

Cameron, Mo.—Plans being prepared by M. S. Martin, 507 Hannibal Trust Bldg., Hannibal, for erecting 3-story, 100 x 160-ft. Liberal Arts Bldg. for Missouri Wesleyan College.

Beaumont, Tex.—Bond issue of $300,000 sold for erecting new buildings and repairing old school buildings. Address City Secy.

Dallas, Tex.—Reported City Commrs. will erect $100,000 Fair Park building this year. H. D. Lindsley, mayor.

Fort Worth, Tex.—Reported County Comrs. will erect county jail on Market Sq. to cost between $150,000 and $200,000.

Fort Worth, Tex.—Plans being prepared by Sanguinet & Staats, 1st Nat'l Bank Bldg., for erecting new prison; cost $150,000. Clerk Bd. Co. Commrs.

Spokane, Wash.—Preliminary plans were prepared by Frank A. Moss., mining engineer, here, for erecting proposed Mining Congress Hall, 300 x 486 ft.; cost $750,000.

Portland, Ore.—See "Reinforced Concrete."

Portland, Ore.—Reported Rasmussen & Co., 2nd and Taylor Sts., will erect brick and mill construction building; to cost about $100,000.

Bakersfield, Cal.—Bond issue of $90,000 for erecting school buildings has been voted. James Egan, secy bd. educ.

Fresno, Cal.—See "Reinforced Concrete."

Los Angeles, Cal.—See "Reinforced Concrete."

Los Angeles, Cal.—Plans being prepared by John Parkinson, 420 Title Insurance Bldg., for erecting 10-story, 1000-room, 170 x 155-ft. reinforced addition to Rosslyn Hotel, 5th and Main Sts., for Hart Bros., owners and proprietors; cost about $1,250,000.

Modesto, Cal.—See "Reinforced Concrete."

San Pedro, Cal.—Contract will be let early in February by Major Henry W. Newton, U. S. A., Alexandria Hotel, Los Angeles, for erecting 2-story barracks, hospital, storehouse, guards' quarters and officers' houses at Fort MacArthur; cost $400,000.

Nogales, Ariz.—Reported Wirt E. Bowman plans erecting 3-story apartment house to cost $50,000.

Yuma, Ariz.—Reported Southern Pacific R. R. Co. (W. Hood, ch. engr., San Francisco) will erect passenger station, roundhouse, switching yards, etc.; cost about $250,000.

Pocatello, Idaho.—Plans being prepared for erecting 4-story, brick and stone hotel building to cost $250,000 for W. M. Kasiska. Contract will be let in March.

Twin Falls, Idaho.—Reported new plans being prepared by Supervising Archt.'s Office, Washington, D. C., for erecting $85,000 postoffice here.

Toronto, Ont.—Plans being prepared by G. H. Crane, Ford Bldg., Detroit, for erecting brick, steel and reinforced concrete theatre; cost $250,000.

Plans being prepared by Howard J. White, 408 Ryrie Bldg., for erecting brick, stone, reinforced concrete department store for T. Eaton & Co., to cost $10,000,000.

BIDS DESIRED

Holyoke, Mass.—Until Feb. 16, by Bd. Pub. Works, for erecting isolation hospital; cost $60,000.

Newport, R. I.—Until Feb. 19, by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Washington, D. C., for erecting brick building with reinforced concrete columns, for Seaman Gunners' Quarters, at Naval Torpedo Station, Newport.

Port Henry, N. Y.—Until Feb. 14, by R. A. Hall, clk. bd. educ., for erecting high school building; separate bids for heating, plumbing and electrical work.

Syracuse, N. Y.—Reported desired until Feb. 3, by Thomas W. Lamb, 644 8th Ave., New York City, and Albert E. Westover, Keith's Theatre Bldg., Philadelphia, archts., for erecting 1-story, 72 x 208 ft. brick and steel theatre and office building at 418 S. Salina St., for Keith & Albee, 1564 Broadway, New York City.

Thiells, N. Y.—Until Feb. 14, by Frank A. Vanderlip, pres. bd. mangrs., Letchworth Village, 7 Wall St., New York City, for erecting, heating, plumbing, drainage and electric wiring for cottages E, F, G, H; advertised in this issue.

New Lisbon, N. J.—Until Feb. 7, by Bd. Freeholders (A. I. Davis, dir.), Mount Holly, for erecting tubercular hospital; plans may be obtained from James Logan, co. engr., 11 Main St., Mount Holly, upon deposit of $6.

Haverford, Pa.—Until Feb. 1 by Bailey & Bassett, archts., 421 Chestnut St., Philadelphia, for erecting 4-story, 66 x 110-ft. stone Science Hall for Haverford College (Isaac Sharpless Hall).

Lewiston, Pa.—Until about March 1 by J. B. Hamme, archt., York, for erecting brick, stone and concrete, 100 x 150-ft. Y. M. C. A. building; cost $95,000; cost of equipment, $10,000.

Macon, Ga.—Reported desired until Feb. 7 by Bd. Dir., Washington Public Library (Eugene Anderson, secy.), for plans for library building, to be erected on lot 123 x 150.

Bartow, Fla.—Until Feb. 26, by Jas. A. Wetmore, superv. archt., treas. dept., Washington, D. C., for erecting U. S. post office building.

Homestead, Fla.—Until Feb. 5, by Town Council (Wm. B. Caves, clk.) for erecting town hall; advertised in this issue.

Jacksonville, Fla.—Reported desired until Feb. 3 by Bd. Pub. Instr. (F. A. Hathaway, secy.), for erecting Stanton school building, 60 x 240 ft., with wing 50 x 85 ft.; cost about $85,000. Mellen C. Greeley, archt.

Ravenna, Ky.—Until Jan. 31, for improving Main and Railroad St., and some others; expenditure, about $25,000; address City Council; previous item Ravenna, O., an error.

Union City, Ind.—Until Feb. 3, by H. L. Vining, clk., Mississineawa twp., Route 41, for erecting township hall.

Worden, Ill.—Until Feb. 1, by M. E. Berry, secy. bd. educ., for erecting grade school for Dist. No. 61; separate bids for heating plumbing, ventilating and electric wiring; plans may be obtained from J. M. Coleman, arch., 7100 S. Chicago Ave., Chicago, upon deposit of $10.

Cedar Rapids, Ia.—Reported desired until Mar. 15, by Y. M. C. A., for erecting a 4-story brick building; cost about $130,000. W. J. Brown, American Trust Bldg., archt.

Sioux City, Ia.—Reported desired until Feb. 15, by Ernest O. Bromstrom, archt., Brent Bldg., Kansas City, Mo., for erecting 3-story and basement, 40 x 120-ft. apartment house near 17th and Nebraska Sts. for C. E. Smith, Kansas City, Mo.

Comfrey, Minn.—Until March 5, by C. G. Gabrielson, secy. bldg. committee, Swedish Lutheran Church, for erecting church; separate bids for heating, ventilating and electric wiring. H. C. Gerlach, archt., Mankato.

Okabena, Minn.—Until about Feb. 1, by Consolidated School Dist., for erecting 1-story consolidated school building; cost $50,000. C. H. Parsons, 601 Phoenix Bldg., Minneapolis, archt.

Neodesha, Kan.—Reported desired until Mar. 15, by Bd. Educ., for erecting school building; cost about $85,000; Smith, Rea & Lovitt, Finance Bldg., Kansas City, Mo., archts.

Wichita, Kan.—Reported desired until Feb. 3, at office Secy. Bd. Educ., for erecting an 18-room fireproof intermediate high school building; plans may be obtained from Lorenz Schmidt, archt., upon deposit of $25.

Crete, Neb.—Reported desired until Feb. 6, by School Dist. No. 2 (H. Eichelberger, secy.), for erecting school building; separate bids on heating, plumbing and wiring; plans may be obtained from Berlinghof & Davis, archts., Security Mutual Life Bldg., Lincoln; certified check for $1,500 to accompany bid.

Beeville, Tex.—Until March 1, by Jas. A. Wetmore, superv. archt., Treas. Dept., Washington, D. C., for erecting U. S. Post Office Bldg.; advertised in this issue

Stamford, Tex.—Until Feb. 27, by Jas. A. Wetmore, superv. archt., treas. dept., Washington, D. C., for erecting U. S. post office building.

Fort Morgan, Col.—Until Feb. 28, by Jas. A. Wetmore, superv. archt., treas. dept., Washington, D. C., for erecting U. S. post office building.

Gallup, N. M.—Reported desired until Feb. 10, by Sisters of St. Francis, for erecting St. Mary's hospital building; to be of stone and brick; material already bought; cost about $100,000.

Maple Valley, Wash.—Until about Feb. 20, by S. E. Sonnicksen, archt., Arcade Bldg., Seattle, for erecting 3-story 120x120 ft. brick and concrete apartment house for Olof Olson, to be located on corner Terry Ave. and Virginia; cost $85,000.

PRICES AND LETTINGS

★Indicates award of contract.

★Jamaica, L. I.—Contract awarded by New York Municipal Railway Co., 86 Clinton St., Brooklyn, to Peter Cleary, 115 Marion St., Brooklyn, for erectnig 3-story 50 x 82-ft. station and trainmen's bldg.; cost $60,000. W. S. Menden, archt., 86 Clinton St., Brooklyn.

Jersey City, N. J.—Following are 4 lowest bids received by Bd. Educ. for erecting school for crippled children, Clifton Place: John J. Egan, Jersey City, at $82,725 (low bidder); Joseph Jewkes & Sons, $84,927; Limouze Bros. at $86,887; W. H. and F. W. Cane, Inc., at $91,500.

★Chester, Pa.—Contract awarded by Bd. Educ. to H. Louis Morris, Chester, for erecting 2-story and basement addition to Horace Mann school at $63,697.

★Harrisburg, Pa.—Contract awarded by trustees of the Harrisburg Academy to Wm. S. Miller, local contractor, for erecting new dormitory, to cost $60,000.

★Philadelphia, Pa.—Following contracts were awarded: To William R. Dougherty, Philadelphia, for erecting 3-story addition to be used as school for Church of Gesu, 17th and Stiles Sts., at $60,000, and for a 3-story brick and stone addition, 43 x 111 ft., to Seminary of St. Charles Borromeo, Overbrook, to be used as service building, at $100,000; to Warren Moore Co., Comm. Trust Bldg., Philadelphia, for erecting 2-story, 78 x 114 ft. reinforced-concrete office building at Broad and Huntingdon Sts., at $97,000, for R. A. Hyman & Bros.

★Atlanta, Ga.—Contract awarded Mackle Constr. Co., Grant Bldg., Atlanta, for rebuilding J. P. Allen store, building to be 5 stories, 50 x 175 ft., steel frame construction with 4-in. spline floor, sprinkler system: cost about $100,000. DeFord Smith, archt., Grant Bldg., Atlanta.

★Jacksonville, Fla.—Contract awarded by Bd. Public Instruction, to Florida Engineering Co., for erecting school building at Riverside, at $90,038.

★Toledo, O.—Contract awarded A. Bentley & Son, 210 Belmont Ave., for erecting 1-, 2- and 3-story power plant at Superior Ave. and Adams St.; cost about $6,000,000.

★Great Falls, Mont.—Contract awarded Grant Smith & Co., Henry Bldg., Seattle, for erecting building for Great Northern Railway Co., at $370,000.

★Eureka Springs, Ark.—Contract awarded by Jas. A. Wetmore, Act.. Superv. Archt., Treas. Dept., Washington, to R. S. Moore, Lafayette, Ind., for erecting U. S. Postoffice, to cost $50,000.

Fresno, Cal.—Following are 4 lowest bids received for erection of Mason Bldg.: Riggins & Palmer, Tulare and H Sts., low bidders, at $151,000; others: Trewhitt & Shields, at $153,198; James L. Daly, at $154,600; Monson Bros., at $155,730.

Los Angeles, Cal.—Following are four lowest bids for general contract for erecting county hospital buildings consisting of maternity building, dining hall and five tuberculosis wards: W. C. Crowell, $155,699; F. O. Engstrum Co., $169,505; J. F. Atkinson, $171,700; Leonard & Peck, $173,000, all of Los Angeles. Bids were referred to Mr. Jno. Schulz, advisory engineer, Los Angeles County, for recommendation.

Windsor, Ont.—See "Reinforced Concrete."

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK

Trenton, N. J.—F. W. Ballard, elec engr., 1849 Caldwell Ave., Cleveland, O., engaged by Mayor Donnelly to make investigations of local water power properties as to feasibility of utilizing them for installing hydro-electric plants to be owned and operated by city.

Philadelphia, Pa.—Plans being prepared by the Dept. Wharves, Docks and Ferries, Bourse Bldg., for constructing pier at foot of Wolf St., Delaware River, 250 x 900 ft., with a 2-story superstructure.

Wheeling, W. Va.—Wheeling Commerce Assoc. states that construction of flood wall to protect Wheeling Island from devastation is contemplated.

Columbia, S. C.—Plans and specifications have been prepared, according to statement of T. Keith Legare, city engr., for extensions to water power plant.

Danville, Ky.—Plans being prepared by Queen & Crescent RR. (Louis Herrington, ch. engr., Richmond, Ky.) for constructing power dam across Dix River near Danville, and construct an electric plant; cost $1,000,000; harnessing of Cumberland Falls on Cumberland River for power purposes is also contemplated; cost $1,000,000.

Milford, O.—Reported Little Miami River Light & Power Co. has applied to City Council for rights along the Little Miami River within corporate limits of the village for construction of dams and other improvements; reported fourteen dams will be constructed between Plainville and Morrow.

White Cloud, Ind.—Interstate Pub. Serv. Co., Bd. of Trade Bldg., Indianapolis, contemplates constructing hydro-electric power plant on Blue River at Whitecloud, near Corydon.

Ann Arbor, Mich.—Contract will soon be let by Detroit Edison Co., Washington and State Sts., Detroit (A. C. Curtis, mgr.), for constructing hydro-electric power plant on Huron River; cost $140,000.

Chicago, Ill.—Electric Development Com. of Sanitary Dist. of Chicago have taken steps toward constructing hydro-electrical plant in Brandon Rd. four miles below Joliet, to develop about 28,000 hp.

Kenosha, Wis.—Bd. Pub. Wks. preparing plans for 500 ft. breakwater in Lake Michigan; cost about $15,000. B. C. Brennan, city engr.

Higden, Ark.—Arkansas Hydro-Electric Development Co. (A. R. Amos, pres.), Little Rock, contemplates harnessing Little Red River, constructing storage dam at Higden and a reservoir of 10,000,000,000 cu. ft. capacity; also constructing dam at Heber Springs for manufacture of electric current for distribution over transmission lines of Searcy, Bald Knob and Bradford, then to Newport, a distance of about 40 miles.

Beaumont, Tex.—Bonds for $230,000 for constructing wharves have been sold. Address City Secy.

Ada, Okla.—Oklahoma Light & Power Co. (controlled by Mainland Bros., Chicago, Ill.) contemplates constructing hydroelectric plant on Canadian River 4½ miles north of Ada, for developing water power and transmitting electricity to Ada, Shawnee, Oklahoma City, Guthrie and other cities.

Seattle, Wash.—Union Pacific Ry. Co. (Carl Stradley, ch. engr., Salt Lake City, Utah) contemplates constructing docks and warehouse at foot of Dearborn St., including terminal tracks and dredging; cost about $350,000.

Sacramento, Cal.—State Bd. of Control has recommended expenditure of $500,000 in co-operation with Federal Government for flood control on Sacramento River.

Chicago, Ill.—Following bids opened Jan. 10, by Bd. Pub. Wks. (W. R. Morehouse, comr.), for (I) removing present substructure; (II) constructing substructure of Strauss direct lift bridge at W. 12th St. over south branch of Chicago River: (a) Byrnes Bros. Dredg. & Eng. Co., 208 S. La Salle St., (I) $17,192, (II) $146,051 without concrete, $206,051 with concrete; (b) Great Lakes Dredge & Dock Co., 104 S. Michigan Ave., (I) $17,995, (II) $155,951 without concrete, $175,751 with concrete; (c) Fitz Simons & Connell Dredge & Dock Co., 10 S. La Salle St., (I) $23,842, (II) $124,915 without concrete, $151,915 with concrete; (d) W. J. Newman, 19 N. Curtis St., (II) $169,628 without concrete, $178,868 with concrete.

I

	(a)	(b)	(c)
Removing center pier, abutments, lump sum	$10,000.00	$11,993.00	$18,500.00
17,000 cu. yd. dredging	0.40	0.33	0.245
1,570 cu. yd. filling	0.25	0.25	0.75

II

	(a)	(b)	(c)	(d)
Removing obstruction, lump sum	$12,000.00	$7,100.00	$4,575.00	$14,841.00
Maintenance of traffic, lump sum	7,500.00	16,000.00	6,300.00	15,525.00
Maintenance of structures, lump sum	5,000.00	9,000.00	4,200.00	11,730.00
4 test piles	40.00	50.00	35.00	120.00
Cofferdams, lump sum	35,000.00	21,400.00	18,000.00	43,520.00
2,350 cu. yd. general excav	2.00	2.40	4.60	3.16
1,400 cu. ft. removal of material	0.60	0.50	0.40	0.575
100 cu. ft. removal of boulders	1.00	0.50	0.35	0.575
1,820 cu. yd. concrete	11.00	9.90	8.75	8.15
36,850 cu. ft. sub-piers	0.70	1.25	0.92	0.76
5,000 cu. ft. concrete in sub-piers	0.50	0.20	0.25	0.86
277,300 lb. reinforcing steel	0.07	0.07	0.0575	0.0525
16,500 lb. furnishing and placing substructure steel	0.07	0.09	0.0975	0.06
126,500 lb. erecting superstructure steel	0.02	0.01	0.015	0.015
10,350 lin. ft. creosoted oak piles	0.45	0.42	0.50	0.40
1,000 lin. ft. piles (not creosoted)	0.20	0.20	0.20	0.1725
10,650 lin. ft. pile driving	0.20	0.15	0.18	0.34
23,850 ft. b. m. creosoted oak in place	95.00	100.00	100.00	110.40
1,000 ft. b. m. creosoted pine and fir in place	87.00	90.00	90.00	92.00
300 lin. ft. concrete docks	200.00	66.00	90.00	30.80

San Francisco, Cal.—Following are totals and unit figures of bids opened Jan. 11 by State Harbor Comrs. (Frank G. White, ch. engr.) for constructing substructure only of State Pier No. 3, 138 x 76 ft. passenger landing, and bulkhead wharf 423 x 45 ft., at foot of Washington St.: (a) John D. Hannah, Chronicle Bldg., $248,000 (awarded contract); (b) Healey & Tibbetts Constr. Co., 9 Main St., $253,620; (c) Clinton Constr. Co., 21st and Treat Sts., $277,000; (d) San Francisco Bridge Co., Nevada Bank Bldg., $318,400. Bidders all of San Francisco.

Reinforced Concrete Piles:	(a)	(b)	(c)	(d)
20 in. sq, 6, 1⅛ in. sq. bars, lin. ft.	$2.00	$2.75	$1.90	$1.40
20 in. sq., 6, 1 in. sq. bars, lin. ft.	1.00	2.20	1.60	1.30
20 in. sq., 4, 1 in. sq. bars, 2⅞ in. sq. bars, lin. ft.	1.30	2.00	1.60	1.20
20 in. sq., 6, ⅞ in. sq. bars, lin. ft.	1.25	1.60	1.35	1.10
18 in. sq., 4, ¾ in. sq. bars, 2⅝ in. sq. bars, lin. ft.	0.95	1.20	1.10	0.90
16 in. sq., 4, ⅝ in. sq. bars, lin. ft.	0.90	1.00	0.95	0.70
Reinforced steel in place, lb	0.043	0.055	0.045	0.045
Concrete in place, cu. yd	8.50	11.50	6.75	8.00

Los Angeles, Cal.—Plans for construction of dykes, levees and other improvements to keep southern California rivers in their course, prepared by J. W. Reagan, floor control engr., Courthouse, and presented to County Bd. Supervrs.; construction of three high masonry dams contemplated to cost about $1,000,000. Election to be held Feb. 2. Estimated cost of project $4,450,000.

Halifax, N. S.—Jos. M. Tobin, Halifax, organizing the $2,000,000 Nova Scotia Shipbuilding Co., reports Canadian Government is contemplating improving port to include shipbuilding plant; expenditure $30,000,000.

Chatham, Ont.—By law to extend hydro-electric system has been approved by the rate-payers; cost $15,000.

Hamilton, Ont.—Plans being considered by E. I. Sifton of Hamilton Hydro-electric Dept. for installing of storage system and booster pump at the Beach pumping plant; cost about $25,000; transmission line also to be erected.

Iroquois Falls, Ont.—The Abitibi Pulp & Paper Co. preparing plans for constructing two new power dams and a power plant; cost $100,000. Contract for addition to mill buildings has been awarded to Canadian Stewart Co., Toronto.

London, Ont.—Plans being considered by the Pub. Utilities Comn. for additions to municipal hydro-electric plant; cost about $50,000.

Esquimalt, B. C.—City Council indorsed petition of the Esquimalt Graving & Dock Com. asking Dominion Government to take action for completion of graving dock here, for which property was purchased in 1914 at Lang's Cove.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Buffalo, N. Y.**—Contract awarded by Penn. R. R. Co. (Alex. C. Shand, ch. engr., Philadelphia) to Great Lakes Dredge & Dock Co., Morgan Bldg., Buffalo, for reconstructing its ore dock on the Union Canal; portion above the water will be of reinforced concrete resting on concrete piles, formed in place; cost $100,000. C. P. MacArthur, asst. engr., Penn. R. R.

★**Milwaukee, Wis.**—Contract awarded by Chicago, Racine & Milwaukee Steamship lines, 289 E. Water St., Milwaukee, to G. W. Stiles Co., 209 S. La Salle St., Chicago, at $250,000 for erecting 3-story dock and freight house.

★**Sarnia, Ont.**—Contract awarded by Dominion Salt Co. to Norris Gibb, 173 Bright St., for constructing timber dock, 600 ft. long.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK

Brooklyn, N. Y.—The Bd. of Estimate, Municipal Bldg., New York, has approved plans and specifications for filling in the 70 acres of swamp in Dyker Beach Park to a level of about 6 ft. above high water, material for filling to be dredged from Gravesend Bay; cost about $89,600.

Manasquan, N. J.—Borough contemplates constructing inland waterway, 25 ft. wide and 6 ft. deep to run from Manasquan River to center of town. Surveys will be made to determine cost. Address B. Frank Newman.

Hammond, La.—Drainage Board has petitioned Police Jury to call election to vote $150,000 for constructing drainage system in parish. J. M. Fourmy, engr., New Orleans, made preliminary surveys for above land.

Brownsville, Tenn.—Citizens of Haywood County have taken final preliminary steps for constructing drainage system with Nixon Creek as the principal channel for reclamation of about 4000 acres of land, to include 4 miles of lateral ditches and about 150,000 cu. yd. excav.

Paducah, Ky.—Contract will soon be let for drainage of about 21,160 acres in Mayfield Creek, length of main channel 23.25 miles, length of laterals 14.7 miles, 3,000,000 cu. yd. excav. John E. Johnson, ch. engr., Mayfield Creek Drainage Dist.

Gary, Ind.—Decision has been made by the Supreme Court in favor of Burns Ditch Comrs. for construction of the Burns Ditch which was planned to turn the Little Calumet River into Lake Michigan at Dune Park and convert 4 sq. miles of swamp land within city limits of Gary into high and dry territory.

Edwardsville, Ill.—Plans have been completed by Sheppard & Morgan, Edwardsville, for constructing drainage system to drain about 5 miles, also to construct three highway bridges; cost $81,000.

Crookston, Minn.—County Comrs. contemplate constructing County Ditch No. 30, through Johnson Township; cost $30,000. H. J. Welte, co. aud.

Luverne, Minn.—Rock County, Minn., and Minnehaha County, S. D., contemplate constructing Judicial Ditch No. 3; cost $21,625.

Harrisonville, Mo.—Grand River Drainage Dist., contemplates constructing ditch to drain 20,000 acres along river; cost about $140,000.

Blytheville, Ark.—Plans being prepared by Keystone Drainage Dist. for drainage in Mississippi, Poinsett and Craighead Counties, including 300 miles canals and ditches, about 280,000 acres to be drained; cost $2,000,000. Morgan Eng. Co., Memphis, Tenn., engrs.

Columbus, Tex.—Bond issue of $13,000 has been approved by Drainage Dist. No. 2.

Orange, Tex.—Surveys are being made by L. F. Daniel, engr., of Beaumont, and associates for extensions to Adams bayou canal, which will mean irrigation of an additional 300 acres of land and later another 600 additional acres.

Astoria, Ore.—Surveys are being made by A. J. McLean, city engr., for third reclamation dist., and contract will be let in March; 1,000,000 cu. yds. of sand will be required to fill in proposed dist.; cost about $140,000, and about $50,000 for bulkheads.

Alturas, Cal.—John W. Fitzhugh has applied to State Water Comn. for permission to divert water from Canyon Creek for irrigation; plans include earth dam 550 ft. long and ditch two miles long.

Indio, Cal.—Plans prepared by Dessery & Bell, 514 Central Bldg., Los Angeles, for constructing series of levees and a storm water channel to control flood waters of Whitewater River for Coachella Valley storm sewer district.

Los Angeles, Cal.—Plans have been prepared by William Mulholland, ch. engr. bd. pub. serv. comn., Knickerbocker Bldg., for constructing main trunk line 11.3 miles long to carry water from Los Angeles Aqueduct to annex Westgate territory for irrigation and domestic purposes; estimated cost, including district's proportionate share of cost of constructing Franklin Canyon tunnel, $466,000. Comrs. have voted to form irrigation dist. and hold election to vote bonds for this work; laterals will be constructed later by assessment plan.

Merced, Cal.—Crocker-Huffman Land & Water Co. (S. L. Stovall) contemplates constructing a spillway in Livingston Canal; cost $10,000.

Pasadena, Cal.—Ivanpah Improv. Co. has applied to State Water Comn. for permission to divert water in Ivanpah Valley, San Bernardino Co., to include pipe line 2½ miles; estimated cost $10,000.

Salinas, Cal.—Drainage bonds for $80,000 have been voted for reclamation of about 5000 acres of swamp land; cost about $65,000. Secy. Trustees, Reclamation Project.

Willows, Cal.—Princeton-Cordova Glenn Irrig. Dist., Princeton, Cal., contemplates irrigating about 20,000 acres, requiring pumping about 240 acre ft. of water from Sacramento River, lift 20 ft., two pumping stations with two 30 in. centrifugal pumps at each station. Bonds will probably be voted in April. D. W. Ross, consult. engr., Hobart Bldg., San Francisco.

Salt Lake City, Utah.—Plans have been completed for bringing water from the Gunnison Reservoir to the ridge lands for irrigation in Juab Valley, of about 30,000 acres; cost of digging canal and all other work incidental to project, about $1,800,000, adding cost of water total investment, will be more than $2,000,000, figuring on 60,000 acre ft. of water.

BIDS DESIRED

New Brunswick, N. J.—Until Feb. 7, by State for cutting 100,000 or more lin. ft. of 10 x 30-in. ditching, or its equivalent, on salt marshes of upper twp., lying between Packs Bay and upland to west, from Meadow Blvd. to Beesly's Point between Great

Egg Harbor and Tuckahoe River, Cape May Co., specification may be obtained from Bd. Health; address Thomas J. Headlee, Entomology Bldg., New Brunswick.

Passaic, N. J.—Until Feb. 23 by U. S. Engr., Room 802, Army Bldg., 39 Whitehall St., New York City, for dredging in Passaic River; advertised in this issue.

Woodbury, N. J.—Until Feb. 19, by U. S. engr., Wilmington, Del., for dredging Woodbury Creek.

Wilmington, Del.—Until Feb. 19, at U. S. engr. office, Old Federal Bldg., for dredging Cooper River; advertised in this issue.

Rayne, La.—Bonds for $100,000 for drainage will be sold Feb. 3 by 1st Ward Drainage Dist. (Wallace Dupont, pres.).

Estherville, Ia.—Reported desired until Feb. 12, by Bd. Superv. Emmet Co. (J. J. Klopp, aud.), for constructing Drainage Dist. No. 109.

Forest City, Ia.—Reported desired until Jan. 31, by C. K. Nelson, aud., Winnebago Co., for constructing Drainage Dist. No. 57; work includes 1300 ft. open ditch, 1000 cu. yd. excavation, 80,131 ft. tile from 6 to 48 in.; Ditch No. 61, 31,645 ft. tile 6 to 28 in.; certified check for 10% to accompany bid.

Austin, Minn.—Reported desired until Feb. 10, for constructing Judicial Ditch No. 1; work includes about 114,576 cu. yd. excavation, 45,813 ft. 8 to 30 in. tile; also culverts and reinforced concrete bulkheads; plans may be obtained from R. G. Lindgren, engr. Albert Lea and O. J. Simmons, co. aud.; certified check for 10% to accompany bid.

Breckenridge, Minn.—Until about March 1, by O. E. Truax, co. aud., for constructing county ditches Nos. 23, 24 and 30; cost about $70,000. A. M. Hopeman, engr.

Crookston, Minn.—Until Feb. 23, by H. J. Welte, co. aud., for constructing drainage ditch No. 109 to consist of 2 drain ditches and 14 branches to empty into Lost River; cost $22,978; S. Steenerson, engr.

Montevideo, Minn.—Until Feb. 1 by J. J. Stennes, co. aud., for constructing Co. Ditch No. 27; cost about $41,511. Albert Anderson, engr., Westbrook. Advertised in this issue.

Manhattan, Kan.—Until about Mar. 1, by Bd. Superv. Chase Co. D. D. No. 1 (J. E. Stout, ch.), Cottonwood Falls, Kan., for constructing main open ditch about 2 mi. long; work includes about 70,000 cu. yd. open ditch with 12 in. base; H. B. Walker, State drain engr.

Madison, S. D.—Until about Apr. 15 by Chas. A. Timmer, city engr., for constructing Co. Ditch and 50 miles drain tile; cost about $200,000.

Bloomfield, Mo.—Reported desired until Jan. 31 by Stoddard Co. Drain Dist. for constructing ditches. R. F. Jones, co. clk.

Waterford, Cal.—Reported desired until Feb. 19, by Secy. Waterford Irrigation Dist. for constructing 3 lateral canals.

PRICES AND LETTINGS

★*Indicates award of contract.*

Jacksonville, Fla.—Contract awarded by Baldwin Drainage Dist. to Clack & Wright, Jacksonville, for constructing about 1,500,000 cu. yds. excav. together with bridges and concrete spillways.

★**Cresco, Ia.**—Following are bids opened by Co. Comrs. for constructing County Ditch No. 2 Tile, What Cheer Clay Product Co., $7,970 (awarded contract); labor, Hansen-Christensen, Northwood, $4,999 (awarded contract); other bidders, tile, M. S. Burgett, Britt, $13,000; A. W. Dunlap, Mason City, $13,142; T. H. Melvold, Cresco, $16,027; E. A. Hoopman, co. aud.

★**Bemidji, Minn.**—Contract awarded by County to C. E. Carlquist and Richard Rossland for 240 miles of ditch at $28,000.

★**Kansas City, Mo.**—Contract awarded by U. S. Reclamation Service to Walter S. Dickey, 200 N. Y. Life Bldg., Kansas City, Mo., for vitr. drain tile and sewer pipe for the Shoshone and Huntley Projects of about 10,000 lin. ft., at f.o.b. manufacturing point, $10,000.

★**Tacoma, Wash.**—Contract awarded to Tacoma Dredging Co., Tacoma, at $11,200 for constructing embankment on Lincoln Ave.

★**El Centro, Cal.**—Contract awarded by Imperial Valley Irrigation Dist. to M. S. Goodbody, San Diego, for excavating for intake canal 6,000 ft. long at Colo. River at Andrades, 10 miles down stream (on west side) from Yuma, Ariz., 144 ft. on bottom side slope, ½ to 1, at 25 cts. per cu. yd. for 600,000 cu. yds. earth excav., and $1.50 per cu. yd. for 100 cu. yds. rock excav. C. R. Rockwood, ch. engr., Calexico. (Bids opened Dec. 16.)

TUNNELS AND SUBWAYS

PROPOSED WORK

Bayonne, N. J.—F. Van Z. Lane, traffic engr., estimates cost of proposed rapid transit subway system between Jersey City, Bayonne and Staten Island at $30,000,000, construction work to cost $17,000,000 for 8½ miles of trackage, and tubes under North River cost $7,000,000.

Wheeling, W. Va.—Pennsylvania R. R. Co. (Alex. C. Shand, ch. eng., Philadelphia, Pa.) contemplates constructing tunnel 1,000 ft long through hills on Big Wheeling Creek 6 miles above Elm Grove.

Tulsa, Okla.—Missouri, Kansas & Texas R. R. Co. (L. F. Lonnbladh, ch. engr., Dallas, Tex.) contemplates constructing subway at intersections of Corner Ave. and the Katy tracks to connect Irving and Tulsa; cost about $12,000.

MISCELLANEOUS

PROPOSED WORK

Park and Playground—Lowell, Mass.—City council voted $27,000 bonds for park and playground. S. Kearney, city engr.

Transmission Line, Worcester, Mass.—Worcester Electric Light Co. contemplates constructing transmission line on Vernon, Paine, Kenilworth and Greenwood Sts. and Malvern Rd.

Playground—Brooklyn, N. Y.—Bd. of Estimate, Municipal Bldg., New York, has appropriated $100,000 in addition to the $90,000 already granted for converting Dyker Beach Park into a public playground.

Incinerator—Millburn, N. J.—Township Com. contemplates constructing incinerating plant. Address Dr. Wellington Campbell, member.

Incinerating Plant—Altoona, Pa.—City contemplates constructing incinerating plant. Jas. W. Shields, city engr.

Park—Reading, Pa.—City plans to lay out new park and playground; cost $20,000.

Traveling Crane—Swedeland, Pa.—Alan Wood Iron & Steel Co., Philadelphia, contemplates improvement to plant here to include electric traveling crane with capacity to lift loaded freight cars; cost of improvements $1,000,000.

Swimming Pool, Etc.—York, Pa.—City contemplates constructing artificial lake and swimming pool, 250 x 400 ft.; cost about $10,000. C. F. Wallow, archt., City Hall.

Transmission line—Martinsburg, W. Va.—Potomac Light & Power Co., which recently took over property of the Martinsburg Power Co., contemplates constructing a transmission line from Hagerstown & Frederick Ry. Co., at Williamsport, Md., to connect with system at Martinsburg, a distance of 7 miles, so as to secure power from railway plant at Security, Md.

Lock—Donaldsonville, La.—Bonds for $150,000 will be issued by the Lafourche Basin Levee Dist. Bd., New Orleans, for constructing lock at Donaldsonville at the Junction of Bayou Lafourche with the Mississippi.

Transmission line—Clay, Ky.—Mitchell & Dunnigan, owners of the local electric light plant, contemplate erecting an electric transmission line from Clay to Dixon for electrical service here.

Garbage Disposal Plant—Barberton, O.—City contemplates constructing garbage disposal plant. H. W. Alcorn, city engr. R. Winthrop Pratt, 2048 E. 82nd St., Cleveland, consulting engr.

Transmission line—Newark, O.—Ohio Light & Power Co. contemplates extending its trnsmission lines to Pleasantville, Baltimore and Basil this spring.

Park Improvements—Sturgeon Bay, Wis.—City contemplates improving Peninsular Park; cost $10,000. D. E. Doolittle, supt.

Transmission Line, Pine City, Minn.—Eastern Minn. Power Co., Pine City, contemplates extending its transmission line through Henrietta, Mora and Ogilvie.

Transmission Line, Beaumont, Tex.—Plans being considered by Beaumont Traction Co. (W. V. Neal, Supt.) for erecting electric transmission line between Beaumont and Port Arthur.

Dredge—Astoria, Ore.—Port of Astoria has authorized Comrs. to secure figures for supplying port with dredge suitable for dredging river and harbor channels; cost about $70,000.

Parks—Fresno, Cal.—Chas. H. Cheney, archt., Crocker Bldg., San Francisco, has been engaged by Fresno City Trus. to survey and assist City Planning Comn. to beautify the parks and other city property.

Transmission Line—Kendrick, Idaho.—Potlatch Consolidated Electric Co., Kendrick, has been granted franchise to erect and maintain electric transmission lines on highways of county.

Cranes, Smokestacks, Etc.—Panama.—All bids opened Jan. 3 by R. E. Rutherford, asst. purch. agt. Panama, 24 State St., New York, N. Y., for purchasing generator sets, boilers, cranes, smokestacks, etc., have been rejected.

BIDS DESIRED

Crushed Stones—Elizabeth, N. J.—Until Jan. 30 by Bd. Freeholders for furnishing 50 tons crushed stones on 2 streets; Jacob I. Bauer, co. engr.

Cement, Etc.—Newark, N. J.—Until Feb. 1, by City, for furnishing and delivering 300 tons asphaltic cement, 200 tons limestone dust, 300 tons Portland cement, 2000 cu. yd. broken stone; materials to be used in connection with year's work of city asphalt repair plant; specifications may be seen at office M. R. Sherrerd, ch. engr., St. & Water Bd., City Hall.

Boiler—Seaside Park, N. J.—Until Feb. 3 by Boro. (Aaron Wilbert, clk.) for completing an installation of 125-hp. boiler, 250 hp. heater, etc., certified check for $200 to accompany each bid.

Kelp Harvester—Summerland, Cal.—Until Feb. 2, by Bd. Awards, Dept. Agriculture, Washington, D. C., for furnishing 1 kelp harvester fully equipped with propellers, engines, etc. Advertised in this issue.

Cement—London, Ont.—Until about Feb. 15 by Harry Brazier, city engr., for 7000 bbl. grade cement and supplies of vitr. and cement sewer pipe required for year 1917.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Inaugural Stand—Washington, D. C.**—Following are bids opened Jan. 18 by Elliott Woods, supt. U. S. Capitol Bldg., for furnishing material and erecting and later disposing of inaugural stand at the East front of Capitol: Melton Constr. Co., $16,500 (awarded contract); Jones & Brownley, $17,274; Skinker & Garrett, $19,845; P. F. Gormley Co., $20,873. Bidders all of Washington.

Cell Fronts—Atlanta, Ga.—Following are bids opened by Supt. of Prisons, Washington, D. C., for furnishing cell fronts for U. S. Penitentiary, Atlanta (a) erected, (b) delivered: Diebold Safe & Lock Co., Canton, O. (a) $61,812, (b) $56,768; Crown Iron Wks. Co., 1229 Tyler St., N. E., 100 fronts (a) $29,278, (b) $27,578; Mesker Bros. Iron Co., 4212 6th St., St. Louis, Mo. (a) $44,509, (b) $38,890; Champion Iron Wks., Kenton, O., 100 cells, $32,520; Van Dorn Iron Wks Co., Cleveland, O. (a) $47,263, (b) $43,397; A. F. Wagner Archt'l Iron Wks. Co., 769 N. Water St., Minneapolis, Minn. (a) $40,326, (b) $33,100; St. Paul Fdry. Co., St. Paul, Minn., 400 fronts (a) $35,919; if fronts are f.o.b. deduct $1,900.

Gates—Denver, Col.—Following are bids opened Jan. 10 for Spec. 355 F, (a) butterfly, (b) cylinder gates at McDonald and Tabor reservoir, Lakeside Bridge & Steel Co., North Milwaukee, Wis. (a), $4,284, (b) $10,456; Vulcan Iron Wks., Denver, Col. (a) and (b), $15,996; Ellicott Machine Corp., Baltimore, Md. (a) $4,589, (b) $11,720; S. B. Harding, 175 W. Jackson Blvd., Chicago Ill. (a) $5,540, (b) $13,770; Baker Iron Wks., 912 N. Bway., Los Angeles, Cal. (a) $4,763 (b) $14,968; Joshua Hendy Iron Wks., 75 Fremont St., San Francisco, Cal. (a) $6,460, (b) $13,750.

★**Valves—Denver, Col.**—Following are four lowest bids opened Dec. 12 by Morris Bien, actg. dir. U. S. Reclamation Service, for furnishing valves for north tunnel of Roosevelt Dam: El Paso Fdry. & Machine Co., El Paso, Tex., $39,570 (awarded contract); S. B. Harding, 175 W. Jackson Blvd., Chicago, Ill., $44,770; Joshua Hendy Iron Wks., 75 Fremont St., San Francisco, Cal., $48,500; Fulton Engine Wks., Los Angeles, $48,875. (Contract awarded Jan. 16.)

Proposals

For Proposals Advertised See Pages 35, 35A, 35B

WATER WORKS AND SEWERAGE SYSTEMS

Bids Close.		See Eng. Record.
Jan. 30.	Whitewater, Wis	Jan. 20
Jan. 30.	Toronto, Ont.	Jan. 27
Jan. 31.	Springfield, Ohio	Jan. 20
Jan. 31.	Pittsburg, Kan	Jan. 27
Feb. 1.	Mt. Morris, N. Y	Jan. 20
Feb. 1.	Milwaukee, Wis. Adv. Jan. 20, 27.	Jan. 20
Feb. 2.	West Union, Ia	Jan. 20
Feb. 5.	Rockwell City, Ia	Dec. 9
Feb. 5.	St. Paul, Minn. Adv. Dec. 23.	Dec. 23
Feb. 5.	Winnipeg, Man. Adv. Jan. 20, 27.	Jan. 20
Feb. 5.	Springfield, Ill	Jan. 20
Feb. 5.	Alliance, O	Jan. 27
Feb. 5.	East Grand Rapids, Mich.	Jan. 27
Feb. 6.	Flint, Mich. Adv. Jan. 13, 20.	Jan. 13
Feb. 6.	New Brunswick, N. J.	Jan. 27
Feb. 7.	Savannah, Ga	Jan. 20
Feb. 7.	Coeburn, Va	Jan. 20
Feb. 7.	Florence, Neb.	Jan. 27
Feb. 8.	Newark, N. J. Adv. Jan. 27.	Jan. 27
Feb. 12.	Rocky River, O	Jan. 27
Feb. 12.	East View (Cleveland P. O.), O.	Jan. 27
Feb. 14.	Akron, O. Adv. Jan. 27.	Jan. 27
Feb. 14.	Wyoming, O.	Jan. 27
Feb. 14.	Ridgefield, N. J. Adv. Jan. 27.	Jan. 27
Feb. 19.	Humboldt, Kan.	Jan. 27
Feb. 20.	Ft. H. G. Wright, N. Y. Adv. Jan. 20, 27.	Jan. 20
Feb. 20.	Oswego, N. Y	Jan. 27
Mar. 1.	Springfield, Ill	Jan. 13
Mar. 6.	Chilton, Wis	Dec. 2
Apr. 1.	Gibson, Ill	Dec. 23
Apr. 1.	Mt. Vernon, O	Dec. 23
Apr. 1.	Hillsboro, Ill	Jan. 27

STRUCTURAL STEEL WORK

Jan. 29.	Yonkers, N. Y	Jan. 27
Jan. 30.	Baker, Ore	Jan. 20
Feb. 1.	Boise, Idaho	Jan. 27
Feb. 1.	Bucyrus, O	Jan. 6
Feb. 1.	Galion, O	Jan. 6
Feb. 5.	Schuyler, Neb	Jan. 13
Feb. 5.	Northwood, Ia.	Jan. 27
Feb. 6.	Philadelphia, Pa. Adv. Jan. 13, 20.	Jan. 13
Feb. 6.	Wayne, Neb	Jan. 13
Feb. 6.	Covington, Ga	Jan. 20
Feb. 6.	Lusk, Wyo.	Jan. 27
Feb. 6.	Anamosa, Ia.	Jan. 27
Feb. 7.	Philadelphia, Pa. Adv. Jan. 13, 20.	Jan. 13
Mar. 7.	Dillon, Mont	Jan. 27
Feb. 7.	Mount Holly, N. J	Jan. 27
Feb. 8.	Stockton, Cal	Jan. 20
Feb. 9.	Balsam Lake, Wis	Jan. 27
Feb. 9.	Fort Dodge, Ia	Jan. 27
Feb. 9.	Pennsgrove, N. J	Jan. 27
Feb. 12.	Cristobal, C. Z. Adv. Jan. 20.	Jan. 20
Feb. 13.	East Dubuque, Ill	Jan. 20
Feb. 15.	Waupun, Wis.	Jan. 27
Feb. 16.	Flemington, N. J	Jan. 27
Feb. 20.	Vinton, Ia.	Jan. 27
Feb. 28.	Brandenburg, Ky.	Jan. 27
Feb. 28.	Whitley City, Ky	Jan. 27
Mar. 10.	Ravenna, O.	Jan. 27

REINFORCED CONCRETE

Jan. 30	Nashville, Tenn. Adv. Jan. 6 to 27.	Jan. 6
Jan. 30.	Baltimore, Md. Adv. Jan. 20, 27.	Jan. 20
Jan. 31.	Guth, Pa	Jan. 27
Feb. 1.	Pontiac, Ill	Jan. 20
Feb. 1.	Ann Arbor, Mich	Jan. 27
Feb. 5.	San Rafael, Cal	Jan. 27
Feb. 5.	Winfield, Kan. Adv. Jan. 27.	Jan. 27
Feb. 5.	Port Gibson, Mass	Jan. 27
Feb. 6.	Lewisburg, W. Va. Adv. Jan. 13 to 27.	Jan. 13
Feb. 8.	Ft. Wayne, Ind	Jan. 27
Feb. 12.	Wayne, Neb	Jan. 13
Feb. 16.	Columbus, O. Adv. Jan. 27.	Jan. 27
Feb. 19.	Yonkers, N. Y	Jan. 27

ROADS AND PAVING

Jan. 31.	Ravenna, Ky.	Jan. 6
Jan. 31.	Jacksonville, Fla.	Jan. 13
Jan. 31.	Wise, Va.	Jan. 13
Jan. 31.	Springfield, Ohio	Jan. 20
Jan. 31.	Brooklyn, N. Y	Jan. 27
Feb. 1.	Appalachia, Va.	Jan. 6
Feb. 1.	Cedar Rapids, Ia.	Nov. 18
Feb. 1.	Cicero, Ill.	Dec. 30
Feb. 1.	Zeeland, Mich.	Jan. 13
Feb. 1.	Gowanda, N. Y	Jan. 20
Feb. 1.	Lincoln, Ill	Jan. 20
Feb. 1.	Flatbrookville, N. J. Adv. Jan. 20.	Jan. 20
Feb. 1.	De Queen, Ark	Jan. 20
Feb. 1.	Indiana	Jan. 20
Feb. 1.	Monticello, Wis	Jan. 27
Feb. 1.	Lawrence, Mass.	Jan. 27
Feb. 1.	Spokane, Wash.	Jan. 27
Feb. 2.	Olive Hill, Ky	Jan. 20
Feb. 3.	Belvidere, N. J	Jan. 20
Feb. 4.	Mt. Vernon, Tex	Jan. 13
Feb. 5.	Modesto, Cal.	Jan. 27
Feb. 5.	Montevideo, Minn.	Jan. 13
Feb. 5.	Indiana	Jan. 20
Feb. 5.	Springfield, Ill.	Jan. 20
Feb. 5.	Bloomsburg, Pa	Jan. 27
Feb. 5.	St. Paul, Minn	Jan. 27
Feb. 5.	Port Gibson, Miss	Jan. 27
Feb. 5.	Vicksburg, Miss.	Jan. 27
Feb. 6.	Neshanic, N. J	Dec. 30
Feb. 6.	Mt. Olivet, Ky.	Jan. 13
Feb. 6.	Hillsboro, N. J	Jan. 13
Feb. 6.	Inez, Ky.	Jan. 20
Feb. 6.	Grayson, Ky.	Jan. 20
Feb. 6.	Sheridan, Wyo.	Jan. 20
Feb. 6.	Indiana	Jan. 20
Feb. 6.	Jackson, Miss.	Jan. 27
Feb. 6.	Bakersfield, Cal.	Jan. 27
Feb. 6.	Leavenworth, Kan. Adv. Jan. 27.	Jan. 27
Feb. 6.	Perry, Fla.	Jan. 27
Feb. 6.	Palatka, Fla.	Jan. 27
Feb. 6.	Friday Harbor, Wash	Jan. 27
Feb. 6.	Berwyn, Ill.	Jan. 27
Feb. 7.	Burlington, N. J. Adv. Jan. 27.	Jan. 27
Feb. 7.	Indiana	Jan. 27
Feb. 8.	Brook Haven, N. Y. Adv. Jan. 27.	Jan. 27
Feb. 8.	Columbia, Ky.	Jan. 20
Feb. 9.	Lapeer, Mich.	Jan. 27
Feb. 12.	Irvine, Ky.	Jan. 6
Feb. 12.	Georgetown, Ky.	Jan. 20
Feb. 12.	Camden, N. J	Jan. 20
Feb. 13.	Jamestown, Ky.	Jan. 20
Feb. 13.	Albany, Ky	Jan. 20
Feb. 14.	Charleston, W. Va	Jan. 20
Feb. 14.	Baltimore, Md. Adv. Jan. 27.	Jan. 27
Feb. 15.	Hampton, Ia.	Jan. 27
Feb. 15.	New Castle, Pa	Jan. 27
Feb. 19.	Stockton, Cal	Jan. 20
Feb. 21.	Parkersburg, W. Va	Jan. 27
Feb. 22.	Grundy, Va.	Jan. 20
Feb. 26.	Seattle, Wash.	Jan. 27
Feb. 28.	Seattle, Wash.	Jan. 27
Feb. 28.	Tompkinsville, Ky	Jan. 27
Mar. 1.	Manchester, Conn.	Jan. 20
Mar. 2.	Tompkinsville, Ky	Jan. 27
Mar. 15.	Cadiz, O	Jan. 27
Mar. 18.	Kent, O.	Dec. 30
Mar. 30	Canton, Ill	Jan. 20
Mar. 30.	Naperville, Ill.	Jan. 27
Apr. 1.	Virginia, Ill.	Jan. 13
Apr. 3.	Madisonville, Wis	Jan. 27
———	Hoopton, Ill. Adv. Jan. 27.	Jan. 27

RAILWAYS

Feb. 7.	Brooklyn, N. Y	Jan. 27

INDUSTRIAL PLANTS AND WAREHOUSES

Feb. 1.	Glasgow, Ky.	Jan. 13
Feb. 5.	Vallejo, Cal.	Jan. 6
Feb. 5.	Philadelphia, Pa.	Jan. 20
Feb. 5.	Homestead, Fla. Adv. Jan. 27.	Jan. 27
Feb. 15.	Miami, Fla. Adv. Jan. 27.	Jan. 27
Feb. 16.	Seattle, Wash.	Jan. 13
Feb. 26.	Vallejo, Cal.	Jan. 27

BUILDINGS
Public and Private

Jan. 31.	New Haven, Conn	Jan. 20
Feb. 1.	Peoria, Ill.	Jan. 6
Feb. 1.	Chehalis, Wash.	Dec. 16
Feb. 1.	Shell Lake, Wis	Jan. 13
Feb. 1.	Omaha, Neb.	Jan. 13
Feb. 1.	Terre Haute, Ind	Jan. 13
Feb. 1.	Miami, Fla.	Jan. 20
Feb. 1.	Worden, Ind.	Jan. 27
Feb. 1.	Haverford, Pa.	Jan. 27
Feb. 2.	Carey, O.	Jan. 2
Feb. 2.	Trenton, N. J	Jan. 20
Feb. 3.	Jacksonville, Fla.	Jan. 27
Feb. 3.	Syracuse, N. Y	Jan. 27
Feb. 3.	Wichita, Kan.	Jan. 27
Feb. 3.	Union City, Ind	Jan. 27
Feb. 5.	Isabel, Tex.	Jan. 13
Feb. 5.	Albany, N. Y. Adv. Jan. 13 to 27.	Jan. 13
Feb. 5.	Sioux City, Ia	Jan. 13
Feb. 5.	Grantsburg, Wis.	Jan. 20
Feb. 5.	Homestead, Fla. Adv. Jan. 27.	Jan. 27
Feb. 6.	Athens, Ga.	Jan. 13
Feb. 6.	Crete, Neb.	Jan. 27
Feb. 7.	Sioux Falls, S. D	Jan. 20
Feb. 7.	Macon, Ga.	Jan. 27
Feb. 7.	New Lisbon, N. J	Jan. 27
Feb. 10.	Tyndall, S. D	Jan. 20
Feb. 10.	Gallup, N. M	Jan. 27
Feb. 12.	Moultrie, Ga.	Jan. 6
Feb. 12.	Winnipeg, Man.	Jan. 13
Feb. 12.	Little Rock, Ark	Jan. 20
Feb. 13.	Industry, N. Y. Adv. Jan. 13.	Jan. 13
Feb. 13.	Detroit, Mich.	Jan. 13
Feb. 13.	West Minneapolis (P. O. Hopkins), O.	Jan. 20
Feb. 14.	Ripley, W. Va	Jan. 13
Feb. 14.	Morgantown, W. Va. Adv. Jan. 6.	Jan. 6
Feb. 14.	Thiells, N. Y. Adv. Jan. 27.	Jan. 27
Feb. 14.	Port Henry, N. Y	Jan. 27
Feb. 15.	Escanaba, Mich.	Dec. 30
Feb. 15.	Sioux City, Ia	Jan. 27
Feb. 16.	McComb, Miss	Jan. 6
Feb. 16.	Holyoke, Mass.	Jan. 27
Feb. 19.	Barnesville, Ga	Jan. 6
Feb. 19.	Newport, R. I	Jan. 27
Feb. 20.	Des Moines, Ia.	Jan. 20
Feb. 21.	Mena, Ark.	Jan. 30
Feb. 23.	Caribou, Me. Adv. Jan. 20, 27.	Jan. 20
Feb. 26.	Miami, Fla.	Jan. 30
Feb. 26.	Bartow, Fla.	Jan. 27
Feb. 27.	Stanford, Fla.	Jan. 27
Feb. 28.	Ft. Morgan, Colo	Jan. 27
Mar. 1.	Rochester, Minn.	Jan. 6
Mar. 1.	Butte, Mont.	Jan. 20
Mar. 1.	De Land, Fla. Adv. Jan. 20, 27.	Jan. 20
Mar. 1.	Beeville, Tex. Adv. Jan. 27.	Jan. 27
Mar. 5.	Comfrey, Minn.	Jan. 27
May 1.	Minneapolis, Minn.	Nov. 25

FOUNDATIONS, PIERS AND DAMS

Jan. 31.	Kansas City, Kan	Jan. 20
Feb. 10.	Louisville, Ky. Adv. Jan. 13 to 27.	Jan. 13

EXCAVATION, DREDGING AND DRAINAGE

Jan. 31.	Pine Bluff, Ark	Jan. 20
Jan. 31.	Bloomfield, Mo.	Jan. 27
Jan. 31.	Forest City, Ia	Jan. 27
Feb. 1.	Coalinga, Cal.	Dec. 23
Feb. 1.	Montevideo, Minn. Adv. Jan. 27.	Jan. 27
Feb. 2.	Buffalo, Minn.	Jan. 20
Feb. 3.	Plymouth, Ind.	Jan. 20
Feb. 5.	Savannah, Ga. Adv. Jan. 13 to 27.	Jan. 13
Feb. 5.	St. Peter, Minn	Jan. 20
Feb. 7.	New Brunswick, N. J	Jan. 27
Feb. 8.	New York, N. Y. Adv. Jan. 13 to 27.	Jan. 13
Feb. 10.	Austin, Minn.	Jan. 27
Feb. 12.	Estherville, Ia.	Jan. 27
Feb. 19.	Waterford, Cal.	Jan. 27
Feb. 19.	Wilmington, Del.	Jan. 27
Feb. 19.	Woodbury, N. J	Jan. 27
Feb. 23.	Crookston, Minn	Jan. 27
Feb. 23.	Passaic, N. J. Adv. Jan. 27.	Jan. 27
Mar. 7.	Alexandria, La.	Jan. 13
Mar. 15.	Neoedesha, Kan.	Jan. 27
Mar. 15.	Cedar Rapids, Ia	Jan. 27

TUNNELS AND SUBWAYS

Feb. 6.	Philadelphia, Pa. Adv. Jan. 6, 13.	Jan. 6

MISCELLANEOUS

Jan. 30.	Motors, Summerland, Cal. Adv. Jan. 13.	Jan. 13
Jan. 30.	Air Blowers, Summerland, Cal. Adv. Jan. 13.	Jan. 13
Jan. 30.	Boilers, Allentown, Pa. Adv. Jan. 20.	Jan. 20
Jan. 30.	Crushed Stones, Elizabeth, N. J.	Jan. 27
Feb. 1.	Cement, Etc., Newark, N. J.	Jan. 27
Feb. 2.	Kelp Harvester, Summerland, Cal. Adv. Jan. 27.	Jan. 27
Feb. 3.	Boiler, Seaside Park, N. J.	Jan. 27
Feb. 5.	Pine Piles, Philadelphia, Pa. Adv. Jan. 13, 20.	Jan. 13
Feb. 6.	Swissvale, Pa.	Jan. 20
Feb. 7.	Metal Culverts, Livingston, Mont.	Jan. 20
Feb. 14.	Lock Gate Machinery, Pittsburgh, Pa. Adv. Jan. 20, 27.	Jan. 20
Feb. 19.	Air Compressors, Air Locks, Etc., New Orleans, La. Adv. Jan. 13, 20.	Jan. 13

St. Paul	1.15	1.10	1.55	1.45
Kansas City	2.25	2.00	1.35	1.25
Houston	1.85	1.75	1.85	1.75
Denver	*1.25*	*1.25*	**1.75**	**1.75**
Salt Lake City	0.70	0.70	**1.00**	**1.00**
Phoenix	2.00	1.50	1.75	1.75
Seattle	0.75	0.75	1.50	1.50
San Francisco	*0.75	*0.75	*1.00	*1.00
Los Angeles	0.85	0.85	1.00	0.95

*Per ton.

Brick and Paving Material

Brick—Several additional gains in the price of common brick are noted. Prices quoted below are per 1000, wholesale, f.o.b. the cities named:

	Common	Paving
Boston	$11.50	$22.50
New York	9.00	....
Cincinnati	**9.00**	**22.50**
Chicago	6.00	....
New Orleans	**7.40**	27.00
St. Paul	**12.00**	*1.06
Kansas City	**9.00**	20.00
Houston	10.00	26.00
Denver	7.50	....
Salt Lake City	*7.00*	....
Phoenix	10.00	....
Seattle	6.50	28.75
San Francisco	10.00	30.00
Los Angeles	5.50	23.50

*Per square yard.

Stone and Wood Paving Blocks—Prices remain unchanged. Those quoted below are to contractors, per square [illegible] named.

age 60 of Current News can be found on
e opposite side of page 206 A in text

St. Paul	....	[illegible]
Kansas City	2.00	1.00
Denver	....	1.86
Seattle	....	1.35

*Per 1000. †Delivered on street. ‡3½-in. block.

Asphalt—Contract prices governing the sale of the asphalts listed below for the year 1917 are per ton, f.o.b. lighters or cars, Maurer, N. J.:

Kind	Less Than Car Lots	Car Lots, Less Than 250 Tons	Car Lots, 250 to 1000 Tons	Car Lots, More Than 1000 Tons
Refined Trinidad Lake Asphalt	$20.00	$18.50	$18.00	$17.50
Refined Bermudez Lake Asphalt	27.50	26.00	25.50	25.00

Lumber

Price advances continue, and it is said that the actual orders at the mills do not represent the volume of business waiting to be placed as soon as the shipping situation improves. It is reported that many consumers who normally buy of the mills are filling their requirements from yard stocks because of the impossibility of securing mill deliveries. If this is true, an abnormally large demand from lumber yards will be added to the volume of orders from other sources expected by the mills when the car situation improves.

Yellow Pine—Wholesale prices are 1000 ft. b.m., f.o.b. the points named, have recently been quoted as follows:

	1 x 10 Rough	2 x 10 D & M	8 x 8 20	12 x 12 20
Boston	*$65.00	*$43.00	*$42.00	*$48.00
New York	24.00	25.00	30.00	38.00
Cincinnati	32.00	29.00	26.00	29.75
Chicago	25.00	22.00	25.50	29.00
St. Paul	**47.00**	**30.00**	**34.00**	**36.00**
Kansas City	**36.50**	**25.00**	**33.00**	**35.50**
Houston	20.00	22.50	22.50	22.50

*Retail yard price

Fir—Wholesale prices f.o.b. the points named, per 1000 ft. b.m., are as follows:

	1 x 10 Rough	2 x 10 D & M	8 x 8 20	12 x 12 20
Boston	†$45.00	†$39.00	†$35.00	†$40.00
Chicago	....	....	32.25	32.25
St. Paul	**37.00**	**27.00**	28.00	26.00
Kansas City	28.00	....	28.00	28.00
Denver	20.00	**22.00**	23.00	23.50
Salt Lake City	24.50	*24.00*	*24.25*	*25.25*
Phoenix	....	37.50	37.50	....
Seattle	*16.50	*16.50	*16.50	*16.50
San Francisco	*16.00	*16.00	*16.00	*16.00
Los Angeles	*21.00	*21.00	*21.00	*21.00

*Base Price. †Retail yard price.

Spruce and Hemlock—Recent prices, wholesale, per 1000 ft. b.m., f.o.b. the points named, follow:

	Hemlock 1 x 10 Rough	Hemlock 8 x 8 20	Spruce 8 x 8 20
Boston	....	....	$36.00
Chicago	$21.00	$23.00	....
St. Paul	**27.00**	**32.00**	**32.00**
Kansas City	28.00	28.00	....
Denver	20.00	....	....
Salt Lake City	24.50	....	....
Seattle	*16.50	*16.50	*16.50
San Francisco	*16.00	*16.00	....
Los Angeles	*20.00	*20.00	....

*Base price.

Sewer Pipe and Tile

Sewer Pipe—Some further advances have occurred in the West, but the list as a whole remains practically unchanged. Prices quoted below are per lineal foot in large lots to contractors, f.o.b. the cities named:

	3-in.	5-in.	8-in.	12-in.	24-in.	36-in.
Boston	8.4	12.6	19.6	37.8	126	317.75
New York	8.1	12.15	18.9	36.45	121.5	307.5
Cincinnati	7.2	10.8	16.8	32.4	130.5	338.25
Chicago	7.5	12	17.5	33.75	135	350
New Orleans	*3.84*	*6*	11.25	21.25	**84.5**	.....
St. Paul	8	11.5	16	30	105	.....
Kansas City	8	11	15	27	115	240
Houston	**9.36**	**14.04**	**20.75**	**37.35**	**149.4**	.....
Denver	6	....	20.25	40	137.5	.....
Salt Lake City	...	....	*20*	**37.5**	**125**	225
Phoenix	7.5	12.5	22.5	37.5	125	300
Seattle	7.5	....	22.5	41.25	175	.....
San Francisco	7.5	....	22.5	41.25	175	.....
Los Angeles	5.5	9	16	26.5	100	.....

Hollow Building Tile—Prices quoted below are for exterior tile, per 1000, f.o.b. the points named, in large lots to contractors:

	4 x 12 x 12	8 x 12 x 12	12 x 12 x 12
Boston	**$100.00**	**$160.00**	**$195.00**
Perth Amboy	82.50	140.00	206.00
Cincinnati	65.00	85.00	110.00
Chicago	54.00	101.25	140.00
New Orleans	*70.00*	120.00	**160.00**
St. Paul	48.00	102.00	125.00
Kansas City	46.75	90.00	126.00
Salt Lake City	60.00	*85.00*	*120.00*
Phoenix	100.00	175.00	.....
Seattle	55.00	95.00	150.00
San Francisco	70.00	120.00	200.00
Los Angeles	40.00	75.00	.....

Miscellaneous

Manila Rope—Prices have advanced sharply at every point but two of those quoted. Those given below are to contractors per pound in full coils, local delivery at the points named, for ¾-in., 1-in. and 1½-in. rope:

Boston	$0.235	Houston	$0.245
New York	0.245	Denver	0.25
Cincinnati	0.25	Salt Lake City	0.26
Chicago	0.22	Phoenix	0.30
New Orleans	0.23	Seattle	0.23
St. Paul	0.22	San Francisco	0.22
Kansas City	0.255	Los Angeles	0.215

Oil—The rise in gasoline foreshadowed by increases at a few points last December became general during the month. Prices of other oils have also gone up at several points. Prices given below are per barrel of 50 gal. to contractors at the points named:

	Fuel	Black	Red Engine	Steam Cylinder	Gasoline
Boston	$5.00	$7.50	$12.50	$18.75	**$12.00**
New York	....	7.50	14.00	17.50	11.00
Cincinnati	2.75	5.00	8.00	15.00	10.00
Chicago	**2.46**	**4.75**	**9.50**	**17.00**	**9.50**
New Orleans	**4.25**	*4.75*	10.50	*16.50*	**11.00**
St. Paul	2.50	*6.00*	7.75	16.00	**10.00**
Kansas City	**6.70**	3.55	**9.85**	**16.85**	**9.15**
Houston	**1.16**	4.50	9.00	18.00	**10.00**
Denver	*2.30*	*6.25*	12.00	21.00	**11.50**
Salt Lake City	....	10.25	18.00	24.25	12.50
Phoenix	**2.00**	*8.00*	*12.00*	**24.00**	**12.75**
Seattle	1.35	6.25	9.50	20.00	10.25
San Francisco	....	....	....	....	....
Los Angeles	1.15	7.25	10.25	20.00	9.50

Price advances are indicated by **heavy type**; declines by *italics*.

Dynamite—Several declines are noted, together with a rise in prices at New Orleans and in the mining district around Denver. Prices given below are per 100 lb. to contractors for the grades named at the points indicated:

	20% Low Freezing	40% Gelatine	60% Gelatine	80% Gelatine
Boston	$16.00	$18.00	$20.50	$30.50
New York	....	22.00	27.00	....
Cincinnati	14.75	16.75	19.25	29.50
Chicago	13.50	*18.25*	*22.75*	*28.25*
New Orleans	**16.50**	**22.00**	**27.00**	....
St. Paul	*13.75*	*15.75*	*18.25*	....
Kansas City	15.00	20.75	25.75	29.75
Houston	....	*17.75*	*20.25*	....
Denver	**15.50**	**21.25**	**26.25**	**30.25**
Salt Lake City	**12.00**	*17.25*	*21.25*	**26.75**
Phoenix	....	*23.50*	....	....
Seattle	11.50	18.25	22.25	27.75
San Francisco	11.25	17.00	22.00	28.75
Los Angeles	*14.00*	*17.00*	....	....

Copper—The copper market has recovered during the month, and is now strong. A recent nominal quotation for spot electrolytic, New York, was 32 cents a pound, with February delivery quoted at 31½ cents.

Lead—The market for lead is also strong, and continued advances, several of recent date, have brought prices per pound for lots exceeding 50,000 lb. to 8¼ cents, New York, and 8⅛ cents, East St. Louis.

Price advances are indicated by **heavy type**; declines by *italics*.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Where name of official is not given inquiries should be addressed to City Clerk, County Clerk or corresponding official.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK

Cape Vincent, N. Y.—Election to be held in March to vote $4,000 bonds to meter water system and $2,500 for stand pipe.

Penn Yan, N. Y.—Election to be held in March to vote on construction of filter plant at waterworks.

Rochester, N. Y.—Plans being completed by City Engr. for third and last section of Helmlock Lake conduit, about 7 miles in length, and contract will soon be let for pipe line; bids will be received on both steel and c. i. pipe; cost about $400,000.

Sloan, N. Y.—Corporation Council Wm. S. Rann has sent to Comr. Arthur W. Kreinheder of Buffalo an opinion holding that it would be legal for village of Sloan to contract with city of Buffalo for sewer connections to be made in Bailey and Vanderbilt Aves. to relieve congested condition of Sloan sewers; cost to village $58,800.

Wappingers Falls, N. Y.—See "Structural Steel."

Watertown, N. Y.—Council authorized Water Bd. to prepare plans to install 8 new filters and 2 coagulation basins, to cost $53,000.

Irvington, N. J.—Report by Isaac J. Casey, Jr., town engr., to Bd. of Comrs. estimates cost of waterworks at $600,000; pumping station, equipment and auxiliary apparatus to cost $202,459; distributing system, with connections, at $347,282.

Newark, N. J.—Passaic Valley Sewerage Comn. estimates cost of completion of trunk sewerage system, in accordance with revised plans, at $600,000. Chief Engineer W. M. Brown has made estimates. Plans have been approved for new control houses on Kearney Meadows, Bayonne and New York Bay.

★**New Brunswick, N. J.**—City Comrs. will sell $12,000 bonds to be used for construction of new sewer.

Ridgewood, N. J.—Ridgewood Water Co. incorporated at Trenton to operate waterworks; capital stock $125,000. Incorporators, Clement K. Corbin, Summit; Chas. E. Corbin, Rahway, and Carl M. Herbert, Manasquan.

Carbondale, Pa.—Plans being prepared for constructing sewage disposal plant, involving 3000 lin. ft. 4-in. terra cotta and c. i. pipe sewer, sludge beds and Imhoff tanks; cost $50,000. J. A. Saxe, city engr.

Chester, Pa.—New Chester Water Co. will make following improvements: New 10,000,000-gal. filtration plant, foot of Fulton St.; extensions in lines to new districts and improvements in present lines; cost about $496,000. J. L. Forwood, pres.

Media, Pa.—Press reports state during coming summer there will be built in Delaware County, sewer systems and sewage disposal plants to care for Cliftons Heights, Darby Township, Haverford Township, and possibly Aldan and Springfield townships; cost of proposed work $300,000.

Media, Pa.—Comrs. of Upper Darby and Haverford townships planning sewage disposal plant at Cobbs Creek, and installing sewer system; cost about $300,000.

Monaca, Pa.—Boro Council reported considering improvement of waterworks, including construction of reservoir and purchase of new pumps.

Punxsutawney, Pa.—Chas. E. Ratz, supt. water wks., writes that city will construct waterworks to cost $350,000 as soon as permit is secured from Pub. Service Comn. Last hearing will probably be held in Feb. at Harrisburg. Murray Africa, engr., Huntington.

Cumberland, Md.—Ralph L. Rizer, city engr., writes bonds for $500,000 will be issued soon to be used for improvements to waterworks. James H. Fuertes, 140 Nassau St., New York, engr.

Warsaw, N. C.—Town Comrs. reported considering question of constructing waterworks and sewer and lighting system; cost about $30,000.

Tennville, Ga.—Plans being prepared for waterworks and sewer system; cost $25,000. Arthur Pew, engr., Atlanta. W. E. Murchison, city clk.

Jacksonville, Fla.—Municipal improvement bonds for $250,000 for sewers, drains and paving will be sold Feb. 20 by Bd. Bond Trustees.

St. Bernard, Ala.—City is having plans prepared for constructing water softening plant and new power house equipment. Bonds for $90,000 have been voted to be used for above work. Edgar B. Kay, engr., Box 151, Cincinnati, O.

Monroe, La.—City considering construction of new waterworks plant; cost about $25,000.

Barberton, O.—Citizens petitioned for an election to be held March 6 to issue $250,000 bonds to be used for constructing sewers and sewage disposal plant.

Canton, O.—Mayor C. A. Stolberg in his report to Council recommends following improvements to waterworks: Metering all services where waste water is found; construction of 20,000,000-gal. reservoir north of the infirmary, cost about $250,000; appropriation of $4,000 to drill test wells on city property near 9th St. S. W.; erection of temporary sub. pumping station in northeast end; reinforcing city mains with 24-in. main leading to reservoir; installation of low lift pumps at central station, and also construction of 1,000,000-gal. covered basin in waterworks park.

Chardon, O.—H. C. Bickle, mayor, reported to be considering construction of waterworks.

Cleveland, O.—See "Excavation, Drainage and Dredging."

Findlay, O.—See "Roads and Paving."

Louisville, O.—Town reported considering improving water supply and purchase of new pump.

Milford, O.—Chas. G. Sederberg, mayor, is reported to be considering reconstruction of waterworks.

Detroit, Mich.—Clarence W. Hubbell, act. city engr., in a preliminary report to Aldermen estimates an expenditure of $16,000,000 for sewer construction and sewage purification. Among details of plan is complete separation of storm water to relieve sewer capacity by disposing of it through natural drainage systems in Connors Creek and elsewhere; also recommends removal of city's water supply intake farther east to a point near Peche Island.

Effingham, Ill.—Plans being prepared and contract will soon be let for filtration plant; cost $35,000; A. J. Authenreith, 110 S. 16th St., Mattoon.

Peru, Ill.—S. D. Porter of La Salle preparing plans for 720,000-gal. reservoir 80 x 80 ft. inside with 15-ft. depth.

Springfield, Ill.—City considering construction of about 1 mile of reinforced concrete sewer, 14 ft. in depth and width; cost about $150,000.

Beloit, Wis.—John P. Stack, mayor, reported to be considering construction of water filtration plant; also sanitary sewers in West Beloit.

Green Bay, Wis.—Plans being prepared by F. A. Torkelson, city engr., for 1 mile of sewer to be laid in new district; cost $50,000.

Mineral Point, Wis.—Reported contracts will soon be let for extending waterworks. Edward Brown, mayor.

Albert Lea, Minn.—Reported City Engineer preparing plans for constructing sewers in following streets: Ramsey, Minnesota, Freeborn, Pillsbury, Johnson, Bridge and Sheridan Sts. and Marshall Ave. C. J. Dudley, city clk.

Chaska, Minn.—G. H. Gibson, mayor, writes city considering construction of sewage disposal plant.

Langdon, N. D.—John Sheehan, city aud., writes city is considering waterworks and sewer system. Election will probably be held about April 1.

Sedalia, Mo.—Burns & McDonald, engrs., Kansas City, are making an appraisal of the private water plant and will submit a report about March 1. City contemplates purchasing this plant.

Fayetteville, Ark.—City having plans prepared by Winters & Dove, Ft. Smith, for constructing settling and filtering system for city water plant.

Eagle Lake, Tex.—Plans being prepared by John A. Norris, of Wharton, for sewerage system; cost about $12,000. A. M. McCarty, mayor.

Port Arthur, Tex.—City Comrs. have engaged H. M. Maire, asst. engr., State Health Dept., to devise plans for laying sewer mains throughout the city. Bonds have been voted recently; laying additional sewers will cost about $100,000.

Wewoka, Okla.—City considering issuing $47,000 bonds to be used for waterworks improvements.

Seattle, Wash.—Estimates filed with Bd. Pub. Wks. by A. H. Dimock, city engr., for Watermains in 44th Ave., South; cost $24,715; also filed plans for water mains in Leo St.; cost $33,000; sewers in 11th Ave., Northwest; cost $12,000.

Corvallis, Ore.—Contract will soon be let for main trunk sewer extension on Harrison St.; work includes 620 lin. ft. 24-in. pipe, 50 ft. 6-in. pipe, 3 manholes; also for extension of main sewer, including 4020 lin. ft. 6-in. sewer street drains, 1701 cu. yd. excav., 5 cu. yd. fill, 13 corner drains, 20 lampholes, 36 inlets; vitri. or concrete sewer pipe.

Hubbard, Ore.—J. L. Calvert, city recorder, writes plans being prepared by city engr. for waterworks system.

Roseburg, Ore.—Council engaged L. G. Hicks, city engr., to prepare plans for sewer system in Terrace Park addition.

Salem, Ore.—Walter Skelton, city engr., reports plans under way for laying 1200 ft. 36-in. concrete sewer.

Bernardo, Cal.—W. S. King, ch. engr., Volcan Land & Water Co., Escondido, has completed survey for constructing Carroll reservoir in Crescent valley on San Dieguito River.

Gustine, Cal.—Reported city voted $27,000 bonds to purchase and extend water and sewer systems.

Hanford, Cal.—City Council securing estimates for installing meters on all house connections of municipal water system.

Los Angeles, Cal.—Homer Hamlin, city engr., has completed estimate of proposed West Jefferson storm sewer system. The main trunk line from 23d St. and Hooper Ave. to outlet of Ballona Creek, west of the city, would be 7.65 miles long; cost $1,378,214, and 44.95 miles of laterals, costing $1,440,221.

Modesto, Cal.—George Freitas, city engr., preparing estimates for constructing storm sewer system. Bonds will soon be voted.

Nampa, Idaho.—Reported City Council has decided to construct sewers in the Waterhouse and Arlington additions.

Toronto, Ont.—Works Comr. recommends a sewer on west side of Don Esplanade from Eastern Ave. to Wilton Ave.; cost $20,500.

BIDS DESIRED

Brooklyn, N. Y.—Until Feb. 21, by L. H. Pounds, boro. pres., room 2, Boro. Hall, for furnishing and installing mechanical equipment of sewage pumping station at Morgan and Maspeth Aves., Sec. No. 3, of storm and sanitary sewers, in portions of Maspeth Ave. and Gardner Ave.; security, $15,000.

Until Feb. 7, by the above, for constructing sewers in portions of E. 18th, Kings Highway, in Aves. Q, R, S, T and Ocean; work includes 28,490 lin. ft., from 6 to 30-in. storm sewer; together with standpipe, manholes, sewer basins, etc., total cost $93,802; security $40,000.

Long Island City, L. I., N. Y.—Until Feb. 6 by Maurice E. Connolly, boro. pres., Queens, Subway Bldg., Hunterspoint and Van Alst Aves., for constructing sewers and appurtenances in portions of Edison Pl., Kingsland, Benedict, Hatch, Anable and Burnside Aves.; work includes about 7950 lin. ft. vitr. pipe sewer from 12 to 24 in., together with manholes, inlets, house connections, etc.; total security $13,700.

Newark, N. Y.—Until Feb. 21, by Albert W. Beaven, pres. bd. mgrs., state custodial asylum for feeble-minded women, for constructing filter and water purification plant; Lewis F. Pilcher, state archt.; advertised in this issue.

New York, N. Y.—Until Feb. 7 by William Williams, comr. water supply, gas and elec., Room 2351 Municipal Bldg., for furnishing, delivering and laying water mains in Elwood and W. 155th Sts. and in 1st Ave., and in Crotona Pl., Digney Ave. and other streets in Bronx Boro.; security, $12,000.

Millburn, N. J.—Until Feb. 13, by Twp. Committee (William Byrd, chmn.), for sewer connections throughout township for the year 1917.

Philadelphia, Pa.—See "Industrial Plants and Warehouses."

Washington, D. C.—By Bureau Supplies and Accounts, Navy Dept., for Sch. 679, miscellaneous fittings for Mare Island, Cal., and Sch. 677 for 44,000 ft. steel conduit at Washington, D. C.

Columbus, O.—Reported desired until Feb. 6 by Bd. Pub. Serv. (Geo. A. Borden, dir.) for constructing relief sewers in various streets; Henry Maetzel, City Hall, engr.

Coshocton, O.—Until Feb. 15, by Sam Ashman, serv. safety dir., at office Bd. Control, City Hall, for constructing 36-in. sewers in portions of Adams and Mulberry Sts.

East View (Cleveland P. O.) O.—Until March 7 by Charles F. Vlk, village clk., for constructing sewers in portions of Kenyon, Lindholm, Rolliston and other roads.

Anderson, Ind.—Reported desired until Feb. 12 by Morris Collins, city clk., for constructing sanitary sewer system; work includes about 10,026 ft. from 4 to 22-in. tile pipe; cost $13,000. E. A. Funk, engr., City Hall.

LaFayette, Ind.—Until Feb. 14, for constructing 33,613 ft. from 8-in. to 12-in. vitr. pipe sewers, laterals of Sixth Ward Sewerage System, depth 6 to 12 ft.; 6 separate contracts, total $56,236; H. B. Overesch, Jr., city engr.

Detroit, Mich.—Until Feb. 15 by E. J. Bestick, city clk., for constructing waterworks, to include about 25,217 ft. from 4 to 6-in. main, together with hydrants, valves, etc.

Grand Rapids, Mich.—Until Feb. 23 by Bd. Pub. Wks. (Glendon A. Richards, pres.) for constructing public sewer, to consist of 65,000 ft. of pipe from 6 to 39 in.; advertised in this issue.

Castlewood, S. D.—Reported desired until Feb. 8 for constructing waterworks system, consisting of 100-ft. steel tower, 70,000-gal. steel tank, 8000 ft. c. i. water mains from 6 to 8 in. Freed & Sours, Inc., Watertown, engrs.

Portland, Ore.—The following are totals and unit figures of 3 lowest bids opened by city Jan. 17 for construction and repair of Tanner Creek sewer: (a) J. F. Shea and Wm. Lurd, $302,800; (b) Jacobsen & Jansen, $303,921; (c) Giebisch & Joplin, $309,173. Bidders all of Portland. (L. E. Burdick, dep. city aud.)

	(a)	(b)	(c)
1,125 lin. ft. reinforced concrete sewer, 6 ft. 6 in. x 9 ft. 11 in.	$21.00	$22.00	$23.80
1,002 lin. ft. reinforced concrete sewer, 6 ft. 6 in. x 9 ft. 5 in.	20.00	20.00	22.50
783 lin. ft. reinforced concrete sewer, 6 ft. 6 in. x 8 ft. 11 in.	19.10	19.00	21.00
510 lin. ft. reinforced concrete sewer, 6 ft. 6 in. x 8 ft. 5 in.	18.25	18.00	20.00
312 lin. ft. reinforced concrete sewer, 6 ft. 6 in. x 8 ft. 5 in reducing to 6 ft. 6 in. x 6 ft. 8 in.	18.20	17.50	19.25
8 lin. ft. reinforced concrete sewer, 6 ft. 6 in. x 6 ft. 8 in. reducing to 6 ft. 0 in. x 6 ft. 8 in.	18.50	16.50	25.00
670 lin. ft. reinforced concrete sewer, 6 ft. 0 in. x 6 ft. 8 in. (Type "A")	13.40	8.50	14.25
670 lin. ft. reinforced concrete sewer, 6 ft. 0 in. x 6 ft. 8 in. (Type "B")	14.30	9.00	14.75
38 lin. ft. reinforced concrete sewer, 6 ft. 0 in. diam., circular.	14.10	11.00	15.00
1,736 lin. ft. concrete sewer, tunnel section, 4 ft. 0 in. x 4 ft. 8 in.	11.30	8.50	9.80
670 lin ft. concrete sewer, 3 ft. 0 in. x 4 ft. 7 in. section reinforcing 54 in. x 81 in., egg shape	9.35	8.00	12.80
60 lin. ft. concrete sewer, 4 ft. 4 in. x 4 ft. 2½ in. section reinforcing 72 in. x 66 in., catenary	8.05	8.00	13.00
290 lin. ft. steel rib reinforcement in 6 ft. 0 in. circular sewer.	16.00	20.00	17.80
302 lin. ft. concrete sewer, 30 in. diameter	4.55	4.75	3.70
200 lin. ft. 10 in. second grade sewer pipe, with gravel, as per plan, laid	0.70	0.50	0.52
5,000 lin. ft. 8 in. second grade sewer pipe, with gravel, as per plan, laid	0.50	0.35	0.40
200 lin. ft. 6 in. second grade sewer pipe, with gravel, as per plan, laid	0.40	0.25	0.30
988 lin. ft. 24 in. sewer pipe, in concrete, as per plan, laid	3.60	2.60	3.50
254 lin. ft. 24 in. sewer pipe, laid	2.00	2.60	2.00
132 lin. ft. 18 in. sewer pipe, laid	1.40	1.80	1.20
278 lin. ft. 14 in. sewer pipe, laid	1.00	1.30	0.80
108 lin ft. 12 in. sewer pipe, laid	0.72	1.00	0.60
236 lin. ft. 10 in. sewer pipe, laid	0.59	0.60	0.50
1,000 lin. ft. 8 in. sewer pipe, laid	0.43	0.40	0.35
310 lin. ft. 6 in. sewer pipe, laid	0.30	0.25	0.25
32 Y branches, 24 x 8 in. sewer pipe in concrete, laid	10.80	8.00	11.00
8 Y branches, 24 x 8 in. sewer pipe in concrete, laid	7.50	8.00	7.60
4 Y branches, 18 x 8 in. sewer pipe in concrete, laid	5.10	5.50	4.75
8 Y branches, 14 x 8 in. sewer pipe in concrete, laid	3.90	4.00	3.00
1 Y branch, 12 x 8 in. sewer pipe in concrete, laid	3.10	3.50	2.25
8 Y branches, 10 x 8 in. sewer pipe in concrete, laid	2.10	3.00	1.85
4 Y branches, 8 x 8 in. sewer pipe in concrete, laid	1.60	1.00	1.40
10 one-eighth bends, 8 in. diam., sewer pipe in concrete, laid.	1.25	1.00	1.10
39 concrete manholes, complete	90.00	60.00	60.00
12 concrete inlets, complete	27.00	15.00	15.00
1 concrete stilling well, complete	200.00	80.00	90.00
1 complete connection with 6 ft. 0 in. sewer at 13th and Davis Sts.	100.00	250.00	300.00
1 complete connection with 6 ft 0 in. sewer at 14th and Couch Sts.	100.00	250.00	300.00
1 complete connection with 6 ft. 0 in. sewer at 15th and Burnside Sts.	100.00	250.00	250.00
1 complete connection with 6 ft. 0 in. sewer at 17th St.	100.00	250.00	300.00
1,736 lin. ft. tunnel excav. and timbering with concrete backfill for 4 ft. 0 in. x 4 ft. 8 in. sewer	14.00	20.00	11.20
45,500 cu. yd. excav and refilling	2.00	2.08	2.00
100 cu. yd. concrete (extra) 1:2½:3½ mixture	8.00	8.00	8.00
100 cu. yd. concrete (extra) 1:2½:5 mixture	7.50	7.50	7.50
1,000 extra vitrified blocks, in place	0.05	0.06	0.05
1,000 lb. extra steel for reinforcement, in place	0.05	0.06	0.065
1,100 M ft. b. m. lumber in place (Class A)	9.00	11.00	11.00
10 M ft. b. m. lumber in place (Class B)	12.00	25.00	20.00
500 cu. yd. crushed rock or gravel, in place	2.50	2.00	1.50
860 sq. yd. asphalt paving to be taken up and relaid	3.50	3.50	3.60
1,650 sq. yd. bitulithic paving to be taken up and relaid	3.50	3.50	3.60
870 sq. yd. stone block paving to be taken up and relaid	3.00	3.00	2.50
40 sq. ft. concrete sidewalk to be taken up and relaid	0.12	0.20	0.15
40 lin. ft. concrete curb to be taken up and relaid	0.50	0.50	0.40
1 reinforced concrete diversion chamber on 17th St.	450.00	700.00	500.00
1 reinforced concrete junction chamber at 15th and Burnside Sts.	400.00	600.00	500.00
40,000 lin. ft. piling driven, in place	0.30	0.25	0.36
20 lin. ft. 6 in. extra heavy cast-iron soil pipe, laid	0.60	2.00	2.25
30 lin. ft. 8 in. extra heavy cast-iron soil pipe, laid	0.80	2.50	3.00
Changing house connections from old to new Tanner Creek Sewer, as follows:			
No. 129 11th St. north, to curb line in 11th St. north	75.00	100.00	40.00
No. 127 11th St. north, to curb line in 11th St. north; No. 441 Glisan St. to curb line in 11th St., North; No. 443 Glisan St. to curb line in 11th St., North; No. 445 Glisan St. to curb line in 11th St., North	300.00	400.00	320.00
Nos. 448-454 Glisan St., to curb line in Glisan St.	150.00	200.00	90.00
Nos. 106-108 12th St., North, to curb line in Flanders St.	150.00	200.00	80.00
Nos. 101, 103 and 105 11th St., North, to curb line in Flanders St.	225.00	300.00	130.00
No. 34 15th St., North, to curb line in Couch St.	75.00	100.00	40.00
Nos. 29 and 31 14th St., North, to curb line in 14th St., North	150.00	200.00	150.00
No. 25 14th St., North, to curb line in 14th St., North	75.00	100.00	85.00
No. 501 Burnside St. to curb line in 14th St., North	75.00	100.00	75.00
No. 505 Burnside St. and Nos. 20-26 15th St., North, to curb line in Burnside St.	225.00	300.00	120.00
4580 cu. yd. Filling to be placed in abandoned sewer	2.20	2.00	2.00
220 cu yd. Debris to be removed from old sewer	2.50	3.00	3.50

New York, N. Y.—Following are unit figures and totals of 4 lowest bids opened Jan. 26 by Douglas Mathewson, pres. Bronx Boro., for constructing sewers in portions of Eastchester Road: (a) Geo. V. Slack & Co., 2057 Westchester Ave., $91,132; (b) Santor Const. Co., Times Bldg., $95,022; (c) F. V. Smith, Westchester Creek & Turnbull Ave., Bronx., $98,021; (d) Chas. W. McDonald, 1910 Webster Ave., $101,370.

	(a)	(b)	(c)	(d)
48 lin. ft. triple concrete sewer, 11 ft. x 8 ft.	$110.00	$88.02	$133.00	$100.70
1,952 lin. ft. single concrete sewer, 13 ft. x 9 ft.	35.50	39.53	40.50	40.56
60 lin. ft. single concrete sewer, 7 ft. 6 in. x 8 ft.	15.00	20.96	40.50	37.25
3 lin. ft. vitrified pipe sewer, 30 in.	2.00	5.24	5.50	6.00
11 lin. ft. vitrified pipe sewer, 18 in.	2.00	2.60	3.00	5.00
3 lin. ft. vitrified pipe sewer, 15 in.	2.00	1.79	3.00	4.50
16 lin. ft. vitrified pipe sewer, 12 in.	2.00	1.45	2.00	4.00
200 lin. ft. vitrified pipe drains, 12 in. to 30 in.	2.00	1.45	.00	2.00
70 spurs for house connections	1.50	1.50	.80	1.00
50 lin. ft. of risers	1.50	2.00	2.20	2.00
10 manholes	40.00	159.50	40.00	45.00
1,600 cu. yd. rock excavation	3.00	1.10	1.00	3.00
750 cu. yd. Class B concrete	4.50	5.50	1.00	3.50
10 cu. yd. Class C concrete	4.50	5.25	4.95	6.00
325 cu. yd. dry rubble masonry	2.00	.01	3.40	2.25
42,000 lb. steel reinforcement bars	.05	.05	.02	.02
5,000 ft. board measure timber sheeting	45.00	.01	40.00	30.00
1 transforming chamber	2,850.00	2,161.86	3,000.00	3,407.00
650 lin. ft. new guard rail	25.00	.01	.30	30.00
575 lin. ft. iron pipe railing	.70	.01	3.00	3.00

Following are 4 lowest bids, opened same date as above, for constructing sewer in portions of Caldwell Ave.: Fred Schneider, Westchester Ave. & Bronx River, $10,606; Di Menna & Del Balso, 2336 Cambrelling Ave., $11,316; Briggs & McLaughlin, 337 E. 134 St., $11,385; Chas. E. Farrell, 875 E. 180 St., $11,859.

Dows, Ia.—Until Feb. 6 (readvertisement) by W. F. Wedekin, town clk., for constructing sewers and disposal plant; work includes Sect. A, about 49,323 lin. ft., from 6 to 12-in. sewers; Sect. B, 1262 lin. ft. 8 to 15-in. sewer outlet and cast iron pipe sewer; certified check for $1,000 on Sect. A and $500 on Sect. B to accompany bid; plans may be obtained from M. Tschirgi & Sons, engrs., Cedar Rapids, upon payment of $5.

Mohall, N. D.—Until Feb. 27 by Tolleff Syverson, city aud., for constructing waterworks system, including steel tower, tank, c. i. water mains, etc.; certified check for $500 to accompany bid.

Big Sandy, Mont.—Until Mar. 1, by Hans H. Lehfeldt town clk., for water supply system and sewage disposal plant; work includes 3,500 ft. 6-in. steel main, two 2½-in. centrifugal pumps, and 100,000 gal. steel tank. Miracle Eng. Co., 437 Ford Bldg., Great Falls, engrs.

Casa Grande, Ariz.—Until Feb. 15, by City Council for constructing municipal water, power and light plant, including wells, buildings, poles, wires, etc., cost about $30,000. V. A. Thompson, engr., Phoenix.

Emmett, Idaho.—Reported desired until Feb. 21, by city clk., for constructing disposal plant; work includes 7866 ft. vitrified tile from 15 to 24 in.; cost about $17,000. G. W. Knowles, engr.

Panama.—Until Feb. 11, by Earl I. Brown, major, corps engrs., U. S. A., gen purch. officer, for furnishing pipe fittings, valves, etc., for Panama Canal.

PRICES AND LETTINGS

★*Indicates award of contract.*

Boston, Mass.—All bids recently received by Mayor J. M. Curley for meter and pipe have been rejected, being considered too high. Hersey Mfg. Co., 1st St., So. Boston, submitted lowest bid for 5500 water meters at $47,040, and R. D. Wood Co., Philadelphia, Pa., submitted lowest bid on 2625 tons c. i. pipe and castings at $109,054.

★**New York, N. Y.**—Following are 4 lowest bids opened by Pres. Boro. Manhattan, Jan. 22, for alterations and improvements to 11th St. sewer: Laconia Contr. Co., 835 E. 213 St., $15,942 (awarded contract); Jas. E. Buckley, 202 E. 90th St., $16,204; Briggs & McLaughlin Contr. Co., 334 E. 134th St., $17,095; Melrose Constr. Co., 145 E. 125th St., $17,917.

★**Baltimore, Md.**—Contract awarded by City to Pen-Mar Constr. Co., 521 Munsey Bldg., Baltimore, for vitri sewer pipe for Highway Engr.'s Dept. at $11,000; United States Cast Iron Pipe & Foundry Co., Philadelphia, Pa., for 6 months' supply of c. i. fittings for Water Dept. at $106,375.

★**Cincinnati, O.**—Contract awarded by city for constructing sewers on Highland Ave., Corporation Alley, Cumber and Liberty Sts. to Henkel & Sullivan, 710 Mercantile Library Bldg., at $14,107.

★**South Newburgh (P. O. Cleveland, O.)**—Contract awarded by village for Turney Road outlet sewer to G. D. Hoag, 1844 E. 87th St., Cleveland, at $16,994, and for discharge sewer to Wm. McDowell, 10,505 Miles Ave., Cleveland, at $6,353. Herman Behning, vil. clk.

★**Hamilton, O.**—Following are 3 lowest bids opened Jan. 3 by city for constructing sanitary sewer in 6th Ward: (a) John L. Walker, Hamilton, $52,865 (awarded contract; (b) C. F. Smith, Dayton, $56,768; (c) L. A. Dillon, Hamilton, $57,348. Engineer's estimate, $53,187. F. E. Weaver, city engr.

	(a)	(b)	(c)
1,250 ft. 18-in. sewer pipe	$0.75	$0.80	$0.90
1,350 ft. 15-in. sewer pipe	0.55	0.60	0.69
1,520 ft. 12-in. sewer pipe	0.40	0.50	0.54
1,100 ft. 10-in. sewer pipe	0.31	0.40	0.45
22,300 ft. 8-in. sewer pipe	0.21	0.30	0.32
17,700 ft. 5-in. sewer pipe	0.14	0.25	0.24
800 ft. exc., 6 ft. deep	0.25	0.30	0.25
6,500 ft. exc., 6-8 ft. deep	0.45	0.50	0.40
19,000 ft. exc., 8-10 ft. deep	0.65	0.50	0.65
7,500 ft. exc., 10-12 ft. deep	0.90	0.90	0.90
4,700 ft. exc., 12-14 ft. deep	1.10	1.10	1.15
2,600 ft. exc., 14-16 ft. deep	1.25	1.25	1.30
2,200 ft. exc., 16-18 ft. deep	1.50	1.85	1.50
1,950 ft. exc., 18-20 ft. deep	2.00	2.60	1.75
64 manholes	45.00	40.00	45.00
91 lampholes	6.00	5.00	4.00
23 flush tanks	50.00	60.00	50.00
23 corporation cock and spec.	6.00	6.00	6.00
450 ft. lead pipe and trench	0.60	0.80	0.75
4 ton standard iron pipe	30.00	50.00	40.00
15 cu. yd. concrete	5.00	10.00	6.00
500 ft. repaving (street crossings)	0.10	0.20	0.05
10,000 ft. lumber left in trench	0.10	0.02	5.00

★**Moran, Kan.**—Contract awarded by City for waterworks and electric light plant to Connor Constr. Co., 4008 Mongall St., Kansas City, Mo., at $40,000.

★**San Antonio, Tex.**—Contract awarded by city to McKenzie Constr. Co., San Antonio, for constructing sewers in Collins Gardens, etc., at $13,588.

★**Sands Springs, Okla.**—Contract awarded by city to F. P. McCormick, Tulsa, for constructing storm sewers at $28,555.

★**Salt Lake City, Utah.**—Contract awarded by city for concrete pipe, Meriweather type, for constructing outlet to Main trunk sewer, to J. W. Mellen, $92,582. Other bidders: P. J. Moran, Contr., Inc., $136,946; Gibbons & Reed, $159,704. Bidders all of Salt Lake City. S. I. Cannon, city engr.

STRUCTURAL STEEL WORK

PROPOSED WORK

Boston, Mass.—Edw. F. Murphy, cor., dept. pub. wks., investigating best type of bridge to construct in Chelsea South, for which appropriation of $450,000 has been approved by J. M. Curley, mayor.

Buffalo, N. Y.—Petition of city fire dept., which has been introduced in Assembly as a bill, to appropriate $50,000 for replacing present Hertel Ave. bridge over canal, has approval of Gen. W. W. Wotherspoon, state supt. of pub. wks.

Wappingers Falls, N. Y.—Village has authorized $20,000 bond issue to be used for installation of steel storage tank on tower 50 ft. high, and piping connections to this tank; also 200 meters. H. W. Taylor, engr., 20 Cortlandt St., New York.

Sayville, L. I., N. Y.—Contract will soon be let by Atlantic Communication Co., 47 West St., New York, for constructing six 800-ft. self-supporting steel towers here.

Trenton, N. J.—Bd. Pub. Utility Comrs., Trenton, have ordered Philadelphia & Reading RR. (Sam'l T. Wagner, ch, engr., Reading Terminal Bldg., Philadelphia, Pa.) grade crossing at Asylum Road, Trenton Junction, eliminated.

Downingtown, Pa.—Co. Comrs., West Chester, favor construction of new bridge over Brandywine Creek on Lancaster Ave., this borough, instead of altering present structure which is used by the West Chester St. Ry.

Johnstown, Pa.—Plans being prepared by G. H. Dunham, archt., Green and Woodbine Sts., Harrisburg, Pa., to replace present bridges, one at First St., with plate steel girder bridge, estimated cost between $18,000 and $20,000; other at Walnut St., with steel bridge encased in concrete; tentative plans calling for raised structure for Mexham bridge, also designed by G. H. Dunham, have been presented to Johnstown & Stonycreek RR. (E. B. Entwisle, ch. engr., Johnstown, Pa.) by J. B. Crissey, city engr., to eliminate grade crossing on Central Ave.

Pennsylvania—State Water Supply Comn., Harrisburg, has approved applications for following bridges: New Castle, Lawrence Co., over Taylor's Run, where this stream crosses road leading from Plaingrove and Mercer public road to New Castle road; over Hettenbaugh Run, where this stream crosses road leading from New Castle road to Neshannock Falls; over Neshannock Creek, where this stream crosses South Mill St., Sunbury, Northumberland Co.; over Mouse Creek, on state highway route No. 336, Red Cross, Pa.

Western Allegheny RR. (Geo. E. Nagel, secy., Commonwealth Bldg., Pittsburgh), over Sugar Creek where said creek meets Holders Run, in Brady's Bend township, Armstrong Co.

Philadelphia & Reading Ry. (Sam'l T. Wagner, ch. engr., Reading Terminal Bldg., Philadelphia), lessee of Wilmington & Northern RR., alter bridge over west branch of Brandywine Creek, and one over this creek, both near Valley Station, Valley Township, Chester Co.

Reading & Columbia RR., over Big Chickies Creek, near Manheim Station, Rapho and Penn Townships, Lancaster Co.

Philadelphia, Newton & New York RR., over Broad Creek, near Southampton Station, Southampton Township, Buck Co.; also over Harpers Creek, near Harpers Station, Abington Township, Montgomery Co. Sam'l T. Wagner, ch, engr., Reading Terminal Bldg., Philadelphia, Pa., of 2 last railroads.

Gastonia, N. C.—Reported ditch bonds for $100,000 will be sold Feb. 16 by Bd. Comrs. Gaston Co. O. B. Carpenter, clk.

Hope Villa, La.—Contracts will soon be awarded by State Highway Dept., New Orleans, for constructing bridge over Bayou Manchac, this place, between Ascension and East Baton Rouge parishes; estimated cost $15,000.

Anderson, Ind.—City Council intends replacing present 9th St. bridge with larger structure, cost of which will be shared by county.

Wichita Falls, Tex.—County voted $80,000 bonds to construct 3 bridges.

Fallbrook, Cal.—See "Reinforced Concrete."

Los Angeles, Cal.—Estimated cost of proposed bridge over Pacific Electric Ry.'s tracks at Sherman Way, contracts for which will be let in near future, divided as follows: Railway, one-half; city and assessment district each one-quarter; total estimated cost $35,000. Paul Shoup, pres. railway.

Clifton, Ariz.—Citizens have approved $160,000 bond issue to construct steel bridges and for flood protection work.

Salt Lake City, Utah.—P. S. Condie, street superv., recommends constructing new bridges, one over Jordan River at 4th South St., another over surplus canal at 13th South St. and Redwood road, also concrete conduit to replace old bridge over Emigration St. at 21st East St.

BIDS DESIRED

Pensacola, Fla.—Reported desired until Feb. 6 by Co. Comrs. (J. Geo. White, chmn.) for constructing bridge over Escambia River, to include substructure work; also for constructing road from bridge to connect with Santa Anna Co.; plans may be obtained from clk. Circuit Court for $2.50. Geo. Rommel, Jr., engr.

Akron, O.—Until Feb. 26, by Bd. Co. Comrs. (U. G. High, clk.) for constructing Twinsburg Bridge, in Twinsburg township. Certified check for $500 to accompany bid.

Brookville, Ind.—Reported desired until March 5 by Chas. G. Reifel, co. aud., for constructing steel bridge over White River.

Grafton, N. D.—Reported desired until Feb. 7 for constructing 20 or more steel and wooden bridges; certified check for $500 to accompany bid. W. C. Treuman, co. aud.

Washington, Ind.—Reported desired until Feb. 7 by Jacob G. Clark, co. aud., for constructing several new steel bridges and reerection of others on new concrete bases.

Hampton, Ia.—Until Feb. 6 by E. D. Haecker, co. aud., for constructing 5 pony truss and 1 I-beam bridges in various townships; cost about $15,058.

Nelson, Neb.—Reported desired until Feb. 7 by W. G. Hall, co. clk., for construction and repair of all wooden and combination steel and concrete bridges required during 1917.

PRICES AND LETTINGS

★Indicates award of contract.

★Tuckerton, N. J.—Contract awarded by Philadelphia & Reading RR. (Sam. T. Wagner, ch. engr., Reading Terminal Bldg., Philadelphia, Pa.) to American Bridge Co., 30 Church St., New York City, to construct 60-ft. steel and concrete bridge, this place.

★Reading, Pa.—Contract awarded by Philadelphia & Reading Ry. (Sam. T. Wagner, ch. engr., Philadelphia, Pa.), Jan. 15, to Reading Constr. Co., 622 Court St., Reading, Pa., sub-contr., Garrett Engr. Co., 103 Park Ave., New York City, at $50,000, for constructing bridge to carry double-track siding into plant of Carpenter Steel Wks. Steel furnished by Lewis F. Shoemaker & Co., Pottstown, Pa.

Washington, D. C.—Bids received Jan. 22 by Bureau Yards and Docks, Navy Dept., for constructing crane runway at Philadelphia Navy Yard, calling for 5000 tons of steel, are: American Bridge Co., 30 Church St., New York City, at $640,000; McClintic-Marshall Co., Pittsburgh, Pa., at $680,000.

★Rock Hill, S. C.—Contract awarded by county (bids opened Jan. 17) to Virginia Bridge & Iron Co., Roanoke, Va., at $42,400, for constructing steel bridge, 980 ft. long, over Catawba River. W. W. Miller, co. engr.

★Howard, S. D. — Contracts awarded (bids opened Jan. 2) by county for repairing bridges, abutments and approaches, to Pioneer Bridge Co., Mitchell, S. D., at $12,820, for 20 bridges; to Lindbloom & Gustavson, Carthage, S. D., at $4,865, for 8 bridges. W. E. Leonard, co. aud.

★Richland, Wash.—Contract awarded by Co. Comrs., Prosser, to Coast Bridge Co., Portland, Ore., at $12,000, to construct bridge over Yakima River below here, replacing present wooden structure.

Spokane, Wash.—All bids recently received by County Comrs. (A. T. Anderson, aud.) for erecting bridge at Nine Mile, being between $11,580 and $13,620, were rejected; will probably readvertise shortly.

REINFORCED CONCRETE

PROPOSED WORK

Sharon, Pa.—Borough officials (W. O. Davis, burgess) have asked Grand Jury, Mercer, that they be given permission to fill in all but 12 ft. of length of present bridge at Walnut St. and construct modern concrete bridge over remaining distance.

Kenosha, Wis.—Plans being revised by Robert Messmer & Bros., 1004 Majestic Bldg., Milwaukee, for erecting clubhouse, owner Elks' Lodge. Building will be of brick and reinforced concrete, and cost about $100,000.

Kansas City, Mo.—Cost of proposed Woodland Ave. reinforced concrete bridge, over Bush Creek, with 75-ft. arch span and 25.33-ft. long abutments, with roadway, paved with creosoted wood block on concrete base, 36 ft. wide, and two 7-ft. sidewalks, will be apportioned, ⅔ to city of Kansas City and ⅓ to Kansas City Rys. (A. E. Harvey, ch. engr., Kansas City, Mo.). Bridge will have 2 electric Ry. trolley tracks and strength to carry two 50-ton trolley cars and a 20-ton motor truck. L. Oppenstein, pres. bd. pub. wks.

Topeka, Kan.—All bids received Jan. 8 by county for constructing 160-ft. Marsh rainbow arch reinforced concrete bridge over Soldier Creek on North Kansas Ave. rejected because election had not been held to have voters approve proposed construction, its cost having exceeded $25,000. Kenneth Raub, co. clk.

Galveston, Tex.—See "Foundations, Piers and Dams."

Centralia, Wash.—Co. Comrs., Chehalis, intend replacing present steel bridge over Skookumchuck River, west of here, with concrete structure; the steel bridge will be moved to north fork of Newaukum River, near Anton Hylak place, replacing wooden one.

Fallbrook, Cal.—Plans being prepared by Mayberry & Parker, engrs., Pacific Elec. Bldg., Los Angeles, Cal., for constructing number of dams, bridges, warehouse and residence of concrete or hollow tile, ranch buildings and irrigation system on ranch near here; estimated cost $200,000.

Salt Lake City, Utah.—See "Structural Steel."

BIDS DESIRED

Salem, N. J.—Reported desired until Feb. 9 by Bd. Freeholders (T. Smaskey, clk.) for constructing concrete bridge over Salem River. H. B. Keasby, engr., Salem.

Phillipi W. Va.—See "Roads and Paving."

Orangeburg, S. C.—Until Feb. 15, by Orangeburg Packing Co. for constructing reinforced concrete and brick packing plant; also for equipping plant; plans may be obtained from Wilson & Sompayrac, archts., Palmetto Bldg., Columbia, and from Packers' Arch. & Eng. Co., Manhattan Bldg., Chicago, upon deposit of $25.

Ann Arbor, Mich.—Until Feb. 14 by Manley Osgood, city engr., for constructing bridge over Huron River at Broadway, to be of 2-span arch structure, 170 ft. long, 50 ft. wide; also for constructing reinforced concrete park bridge, single arch, 50 ft. long and 6 ft. wide.

Macomb, Ill.—Until about Feb. 15 by county, for constructing 30 ft. concrete girder bridge and some concrete culverts. W. M. Bonham, co. highway supt.

Watseka, Ill.—Reported desired until Feb. 8 for constructing 4 reinforced concrete bridges in Iroquois, Stockland, Prairie and Green and Milford Townships.

Jasper, Tex.—Until Feb. 12 by County (C. C. Brown, co. judge) for erecting concrete and steel bridge on Walnut Run Creek 3 miles south from here; certified check for $250 to accompany bid.

Sarita, Tex.—Reported desired until Feb. 14 by Avery T. Searle, co. judge, for erecting 2-story reinforced concrete brick and tile courthouse building for Willacy Co.

Modesto, Cal.—Reported desired until Feb. 14 by H. Benson, co. clk., for constructing 9 reinforced concrete bridges over streams and 17 reinforced concrete siphons for irrigation canals.

PRICES AND LETTINGS

★Indicates award of contract.

★Kansas City, Mo.—Contract awarded by Bd. Pub. Wks. (bids opened Jan. 23) to McMillan Contr. Co., 37 W. Van Buren St., Chicago, Ill., at $90,522, to construct reinforced concrete viaduct on 27th St. Hedrick & Hedrick, Interstate Bldg., Kansas City, Mo., engrs.

★Manhattan Beach, Cal.—Following are 4 lowest bids received by city to construct a 27 blocks long reinforced concrete promenade, including concrete pavement, 13 flights of concrete stairs, balustrades, 7,500 ft. of vitrified, cement and corrugated iron pipe and concrete walls: Modern Constr. Co., Grosse Bldg., Los Angeles, at $50,592 (awarded contract); Redondo Constr. Co., 218 S. Redondo Ave., Redondo Beach, Cal., $58,960; San Pedro Constr. Co., San Pedro, Cal., at $59,010; California-Arizona Constr. Co., 1700 E. Washington St., Los Angeles, $61,021.

★Caldwell, Ida.—Contract awarded Burrell Construction Co., Lewis Bldg., Portland, for erecting 200,000-bu. concrete elevator for Caldwell Milling & Elevator Co., at $100,000.

★Yuma, Ariz.—Following are total and unit figures of bids opened Jan. 12 by Imperial Irrigation Dist. for reinforced concrete intake structure on California side of the Colorado River about 8 miles below Yuma: (a) Ross Constr. Co., Sacramento, Cal., $268,906 (awarded contract); (b) Jas. Kennedy, Washington Bldg., Los Angeles, Cal., $288,909; (c) Wright & Welch Constr. Co., San Diego, Cal., $294,801.

		(a)	(b)	(c)
42,200	cu. yd. exc. pit...	$1.90	$0.90	$0.50
79,200	cu. yd. exc. bank..	0.25	0.50	0.33
8,435	cu. yd. concrete...	12.00	14.00	17.00
577,300	lb. rein. st.....	0.06	0.06¼	0.08
700	lb. str. st.....	0.07	0.12½	0.10
3,750	lb. cast iron.....	0.07	0.12½	0.10
1,304	cu. ft. railing.....	0.50	1.60	1.50
4,700	cu. yd. back fill...	0.25	0.20	0.20
8,400	cu. yd. rock fill...	1.50	2.00	1.25
1,000	cu. yd. rock fill...	2.00	2.00	1.25
53,000	sq. ft. sheeting....	0.30	0.62½	0.80
650	ft. el. cond. wiring.	0.20	1.00	0.30

ROADS AND PAVING

PROPOSED WORK

Auburn, N. Y.—Plans being prepared by Thos. B. Bergan, city engr., for paving on 6-in. concrete foundation requiring 10-in. clay excav., 15,000 sq. yd. and constructing 6000 lin. ft. of concrete curb and gutters on State, North, Fort, Grover and John Sts.; total estimated cost $40,000. With exception of State and North Sts., which will be paved with brick at estimated cost of $15,000, bids will be asked on 4 types of paving. Jas. Hanlon, city clk.

Dunkirk, N. Y.—To permanently improve Main Road which passes through towns of Dunkirk, Sheridan, Hanover and Pomfret; there is $200,000 available. Address A. B. Cranston, Sheridan.

East Rochester, N. Y.—Plans being prepared by R. E. Gaskin, village engr., 55 Triangle Bldg., Rochester, N. Y., for 8730 sq. yd. of paving, with stone or concrete foundation, constructing 7260 lin. ft. concrete curb, also 3300 lin. ft. 5-ft. storm water sewers; total estimated cost $100,000. Bids will be asked on bonds which were carried at election about May 1, and for construction about April 1. Max Domras, village clk.

Islip, L. I., N. Y.—Town will hold election April 3 to vote $30,000 for constructing proposed sidewalks.

Jersey City, N. J.—Estimated cost of proposed paving with different types of material placed at $200,000. Henry Byrne, dir., dept. streets and pub. improv.

Newark, N. J.—Bd. Wks. intends paving 17 streets with sheet asphalt and 5 streets with brick, wood block, telford and granite. M. R. Sherrard, ch. engr.

Paterson, N. J.—Estimated cost of proposed paving, exclusive of largest part of contemplated repair work, placed by H. J. Harder, city engr., at $233,600; largest jobs being, paving of 2600 lin. ft. on Hamburgh Ave. and 2140 lin. ft. on East Main St. with asphalt or concrete, $33,000; 2030 lin. ft. on Market and Spruce Sts. with wood block, asphalt, amiesite or bituminous concrete, $30,000.

Pennsgrove, N. J.—Bd. Freeholders, Salem, contemplate paving 10 miles of Woodstown-Pennsgrove Road and 5 miles of Pennsville-Salem Road with hard surface pavement.

Trenton, N. J.—Bd. Freeholders intend paving Chambers St., Whitehorse-Bordentown, Whitehorse-Yardville, Yardville-Crosswicks, Lawrenceville-Princeton and Yardville-Windsor roads with tar course finishing surface.

Woodbury, N. J.—City has sold $15,000 bonds for proposed street improvements.

Franklin, Pa.—City intends repaving portions of Liberty, Buffalo, 14th and 15th Sts.; estimated cost of repaving Liberty St. between 12th and 13th Sts. with brick on concrete base placed at $9,500, and for sewer work in this part of street, $2,700. John Snow, city engr.

Pittsburgh, Pa.—Estimated cost of proposed entrance to Schenley Park, which includes constructing of 2 drives, each about 125 ft. wide, with 30-ft. walk between the drives, placed at $100,000; plans for which are now being considered by Art Comn. and Schenley Memorial Com. Jos. G. Armstrong, mayor.

Sharon, Pa.—Boro. intends paving portions of North Irvine, Budd and Prindle Aves. and 4 streets. Claude B. Lartz, secy.

Kingwood, W. Va.—County intends constructing 25 miles of roads in Kingwood Dist.; also same amount in Portland Dist. S. R. Guseman, surv., Tunnelton.

Parsons, W. Va.—Road improvement bonds for Fairfax Dist. for $150,000 will be sold Feb. 17 by A. Williamson, pres. Co. Court. Address H. F. Colebank, co. clk.

Princeton, W. Va.—Special election will be held Feb. 17 in following 4 magisterial county districts to vote $1,385,000 good roads bonds: Brown Creek, $565,000; Adkin, $450,000; Elkhorn, $210,000; Northfork, $160,000.

Wilson, N. C.—County sold $250,000 street improvement bonds for proposed work.

Columbia, S. C.—City will soon hold election to vote bonds for street improvements; estimated cost of improving portions of Bull and Washington Sts. with cement concrete sidewalks and curb placed at $10,000. T. Keith Legare, city engr.

Easley, S. C.—Citizens circulating petitions asking for election to vote $25,000 bonds for proposed paving work.

Macon, Ga.—Surveys being made by Bibb and Fulton counties of National highway between here and Atlanta, that federal aid may be obtained to improve same. Judge T. E. Paterson, chmn., state highway dept., Atlanta.

Marietta, Ga.—Estimated cost of proposed stone road, 15 miles long, for which contracts will be awarded in near future, from here to Chattahoochie River and connecting with Fulton Co. road to Atlanta, placed at $150,000.

Macclenny, Fla.—County voted $75,000 bonds to improve highways; indefinite when contracts will be awarded. Mr. Pellum, chmn. bd. supervs.

Pensacola, Fla.—County Comrs. intend resurfacing road, 3½ miles long, from Herrons Bayou to Lillian bridge over Perdido River.

Eufaula, Ala.—Estimated cost which will be divided between Federal Government, the state and county, of proposed work on highway between here and Bullock Co. line, placed between $15,000 and $20,000. Address Co. Clk., Clayton.

Opelika, Ala.—Cocoa-Rockledge Indian Road Dist. voted $300,000 to hard surface and widen 34 miles of Dixie Highway along Indian River through Cocoa, Sharpes, Pineda and Eau Gallie.

Arcadia, La.—First, Fifth and Sixth Wards of parish have voted $400,000 bonds to construct roads of gravel with tarvia surfacing, through Mermentau, Crowley, Rayne and other towns.

New Orleans, La.—Estimated cost of proposed improvement of Canal St. neutral ground placed at $1,000,000, city's share being between $400,000 and $450,000; work includes constructing on both sides of neutral ground roadways, sidewalks and rearranging of trackage; also constructing of symmetrical sheds.

Paducah, Ky.—Contracts will be awarded in April by county (G. Singleton, clk.), principally to reconstruct 100 miles of roads, including Benton, Cairo and Mayfield roads and pave same with gravel, also to construct several large bridges; estimated cost $250,000, for which bonds have been sold. R. H. Young, co. highway engr.

Akron, O.—Plans being prepared by Edw. Paul, engr., Court House Bldg., for paving with brick monolithic, 2½ miles of Richfield road and 2.5 miles of Loyal Oak road.

Bay Village, O.—Reported road improvement bonds for $15,000 will be sold Feb. 15 by A. L. Miller, village clk.

Canton, O.—County Comrs. intend paving 9 miles of roads, for which first section will be awarded about Feb. 20 and second section about March 20, at total estimated cost of $150,000; 3 miles of Alliance-Limaville road and 2 miles of road from New Baltimore in Marlboro township, will be paved with macadam, 1½ miles of Canton-Canal, Fulton and Canton-Middlebranch roads; also ¾ mile of Louisville-Freeburg, which will be extended, will be paved with brick.

Circleville, O.—County intends macadamizing and graveling 10 miles of roads. W. C. Row, surv.

Celina, O.—County intends paving 3 miles of road with concrete and 20 miles with macadam this summer. N. L. Hinton, surv.

Chardon, O.—Contracts about to be awarded by county for improving 20 miles of roads. L. J. McNaughton, surv.

Findlay, O.—Improvements bonds for about $36,113 for purpose of paving and improving sewers on various streets will be sold Feb. 15 by A. E. Risser, city aud.

Galion, O.—City Bd. of Trustees (C. F. Eise, clk) intends selling $18,000 road bonds. A. F. Unckrich, C. E., dir. pub. serv.

Hebron, O.—Proprietors of Buckeye Lake have offered Co. Comrs. 350,000 brick of required 580,000 to improve road from here to lake; construction of this road will require bridging of Licking River. Address Co. Engr., Newark, O.

Lancaster, O.—County intends constructing 9 miles of roads this year. G. O. Brown, highway supt.

Middletown, O.—City intends paving 9 miles on 16 streets and will hold special election to vote $150,000 bonds, estimated cost of work. Some of streets are: 3rd, with wood block or asphalt; Clinton and Canal, with brick or asphalt; Vail, with concrete; also to be sewered, and 9 other streets.

Columbus, Ind.—Road bonds for $95,600 will be sold Feb. 15 by Edward Suverkrup, treas. St. Bartholomew Co.

Crown Point, Ind.—County contemplates paving about 20 miles of roads. Thos. C. Guldin, co. surv., Bluffton (Gary P. O.), Ind.

South Bend, Ind.—Benton township recently voted $100,000 and Bainbridge township has just voted $70,000 for constructing good roads; petition being circulated asking Bd. Supervs. to hold election in county to vote $1,000,000 good road bonds for proposed work.

Charlevoix, Mich.—County intends paving 9 miles of roads with stone or concrete. Ernest A. Robinson, surv.

Coldwater, Mich.—County will hold election April 2 to vote $600,000 highway constr. bonds.

Pontiac, Mich.—Bd. Supervs. sold $250,000 road bonds and intend selling $25,000 additional before March 15 for this year's proposed road work.

St. Joseph, Mich.—Contracts will be awarded about Feb. 1 by county for paving with waterbound macadam 8½ miles of roads; surveys now being made in Benton Township for additional road work. W. J. Cleary, co. road engr.

Christopher, Ill.—Contracts will be awarded by city this spring for hard surfacing roads; estimated cost about $100,000.

Galesburg, Ill.—City contemplates paving Brooks, South Henderson and Third Sts.

Kewanee, Ill.—Estimated cost of proposed paving work for 1917 placed at $96,000; for sewers, $10,000; for water mains, $7,500.

Ottawa, Ill.—Bd. Local Improv. (Geo. L. Farnsworth, engr.) contemplates paving Jefferson, Adams, Van Buren and numerous other streets at estimated cost of $202,000.

Quincy, Ill.—City proposes to pave 144 blocks this year; largest job being on Vine St., next largest on Chestnut St.

Springfield, Ill.—Bd. Local Improvements intends paving portions of 15th and 2 sections of Hough St. with brick, also construct 12-in. sewer in portion of Matheny Ave.

Streator, Ill.—Contracts will shortly be awarded by Bd. Local Improv. (F. H. Renz, city engr.) to pave Bronson and Wasson Sts. with one course brick on 4-in. concrete, requiring 5900 cu. yd. of excav.; also constructing 14,500 ft. sandstone curb; estimated cost, $40,000.

Duluth, Minn.—Plans being prepared by R. W. Acton, Court House Bldg., for proposed improvement of county roads; estimated cost $1,225,000. Odin Halden, co. aud.

Minneapolis, Minn.—Aldermen have recommended to Paving Com. portions of following streets be paved this year with creosote wood blocks: Lyndale, Portland and 4 other avenues and 3 streets; also portion of 4th St. with bitulithic.

St. Paul, Minn.—As soon as South St. Paul gives assurances that it will pave its part of connecting highway, city will pave Concord St. from Ada to Annapolis St. with creosote wood blocks and brick at estimated cost of $38,592 or $3.71 per ft.; estimated cost of curbing placed at $0.60 per ft. and some sewers on last 2 blocks at probably $1.50 per ft. Estimated cost of paving with creosote wood blocks portion of 12th St. in proposed widening plan placed at $13,254 or $6.33 per ft. Oscar Claussen, city engr.

County considering grading, graveling and paving with clay portions of county roads, total length about 8½ miles; some of which are: Hamline Ave., 1 mile; Bald Eagle Lake Ave., 2¼ miles; Mounds View Road, 2 miles; Washington Co. line road, 3 miles.

Olathe, Kan.—County contemplates grading and oiling 80 miles of roads. C. Paine, co. engr.

Fargo, N. D.—Estimates of F. L. Anders, city engr., for this year's proposed paving placed at $391,000.

Yankton, S. D.—County considering constructing with concrete 5 north and south trunk highways and 2 east and west highways, including Washington highway and Meridian road; total length 140 miles. Estimated cost of 10-ft. wide pavement with 3-ft. shoulders of gravel on crushed rock, giving 16-ft. hard surface, placed at $7,000 to $8,000 per mile, or total expenditure of $1,000,000 for contemplated work; if project is approved by Co. Comrs., election to authorize bond issue will be held.

Townsend, Mont.—Reported road bonds for $30,000 will be sold March 6 by Will. G. Rogers, co. clk.

Cameron, Tex.—New election will be held in Buckholts dist. to vote road bonds, as election held several months ago, when bonds for road work were ordered issued, has been annulled by Dist. Court. Address Co. Judge.

Taylor, Tex.—City Comrs. ordered at Jan. 8 meeting additional paving on Talbot, East 8th, Main, Kimbro and 5 other streets, two-thirds of cost being paid by property owners.

Wellington, Tex.—County sold $100,000 road bonds for proposed work. A. C. Nicholson, co. judge.

Durant, Okla.—County intends spending $30,000 for proposed road improvements. L. Varner Stinton, surv. and highway engr.

Santa Fe, N. M.—Reported Co. Comrs. have sold $50,000 highway bonds, subject to citizens' approval of proposed work at election March 7.

Everett, Wash.—Plans being prepared by W. C. Bickford, co. engr., to pave 3 miles of North Fork project, 16 ft. wide; estimated cost $30,000. Mae Weatherbee, co. aud.

Pasco, Wash.—Estimated cost of proposed permanent highway through city, connecting Ainsworth and Washtucna highways, placed at about $40,000.

County intends paving portion of 4th St. with macadam, also E. Lewis St.; estimated cost $16,000. J. W. Ketner, co. engr.

Tacoma, Wash.—Estimated cost to pave 2 miles of Pacific highway from top of Nisqually Hill to Nisqually River, also section of Mountain road and resurfacing of road between here and Puyallup, placed at $75,000; contracts will be let in spring. D. H. White, co. engr.

Washington.—State Highway Comn., Olympia, has submitted to Road Coms. of State Legislature following proposal for apportionment of road funds during coming 2 years: Pacific highway, $570,304, Chehalis to Vancouver; $210,000, Bellingham to Everett; $154,000, Seattle to Olympia. Olympia highway, $133,000, Thurston Co. line to Callam Co. line; $75,664, Lake Quainalt northwest; $65,000, Mud Bay to Elma. McClellan Pass highway, $100,000, Horseshoe Bend to Summit. National Park highway, $80,000, La Grande to Park Junction; $50,000, Nemah to Ocean Beach. Inland Empire highway, $161,000, Whitman Co.; $78,000, Walla Walla to Wallula; $60,000, Spokane Co. line to Laurier; $60,000, Dayton north; $25,000, Richland west. Sunset highway, $378,268, Waterville to Creston; $140,000, North Bend to Vantage. Central Washington highway, $80,000, Connell to Eltopia; $38,000, Ritzville to Sprague. North Central highway, $80,000, Krupp to Columbia River; $444,754 divided among state roads 4, 7, 8, 10, 12, 18, 21, 22 and 23.

Colquille, Ore.—Contracts will shortly be awarded by County Court (J. R. Watson, judge) to construct Coos City-Sumner road, involving grading, wood trestle and drawbridge; estimated cost $20,000. R. B. Murdock, co. roadmaster.

Eugene, Ore.—County intends spending $180,000 for proposed road work this year; estimated cost of proposed work on Divide road placed at $20,000. For this work, which will be in charge of State Highway Dept., Salem, county intends asking State for $5,000 and will appropriate equal amount that $10,000 federal aid may be obtained.

Oakland, Ore.—Plans being prepared by M. B. Garmond, co. engr., Roseburg, to construct 3½-mile road near here, for which contract will probably be awarded this spring. E. H. Lenox, clk., Roseburg.

Oregon.—Plans being prepared by John H. Lewis, state highway engr., Salem, for following road work: Alignment and grade of Wheeler Co. road through Sprague and Fossil, $80,000; pave with gravel macadam these roads: Ruthton Hill, in Hood River Co., $51,000; Semi-Co-operative project between Oregon City and New Era, Clackmas Co., $66,000; Yamhill-Nestucca, $30,000.

St. Helens, Ore.—County has appropriated $126,000 for road and bridge work during 1917. A. F. Barnett, clk.

Salem, Ore.—Estimated cost of proposed New Era Road apportioned as follows: Federal government, $30,000; Clackmas Co., $16,000; state, $15,000. John H. Lewis, state highway engr.

City Council intends paving Washington, North Church, North 5th and D Sts., also Portland road. N. D. Elliott, chmn. street com.

Maricopa, Cal.—City intends paving number of streets in business section. E. E. Ballagh, city clk.

Ontario, Cal.—Contracts will probably be awarded about May 1, by city, for paving 428,000 sq. ft. of streets with 4-in. concrete and constructing 27,500 lin. ft. concrete curbs and about 400 cu. yd. concrete culverts; estimated cost $54,000. B. B. Mann, city engr.

San Francisco, Cal.—Bd. Supervs. has accepted offer of State Harbor Comn. to construct 30 ft. wide paved roadway along Embarcadero for motor buses along the water front.

San Jose, Cal.—Election will be held in county about March 11 to vote $1,500,000 bonds for constructing proposed 82 miles of new concrete roads and 100½ miles of permanent grading and bridge work, one of the largest proposed jobs being reconstructing with state aid 30 miles of Pacheco Pass road; estimated at $450,000; this work includes about $150,000 for bridges and right-of-way.

San Pedro, Cal.—Frank A. Vanderlip, 55 Wall St., New York City, intends constructing 100 miles of boulevard on his Palos Verdes ranch, this place. Olmstead Bros., Brookline, Mass., engrs.

Stockton, Cal.—Bd. Supervs, considering petitions for expenditure of $300,000 to improve county road system. E. D. Graham, co. clk.

BIDS DESIRED

Albany, N. Y.—Until Feb. 19 by Edwin Duffey, comr. highways, for constructing highways in various counties throughout the state; advertised in this issue.

Same place as above, until Feb. 20, for improving highways in various counties throughout state; advertised in this issue.

Brooklyn, N. Y.—Until Feb 7, by L. H. Pounds, boro. pres., Room 2, Boro. Hall, for regulating and paving with permanent asphalt pavement on a 6-in. concrete foundation portions of Dumont Ave; work includes 3940 sq. yd. asphalt pavement (5 years maintenance), bluestone heading stones set in concrete, excav., etc; total security, $2,950; for regulating, grading and laying sidewalks on portions of E. 22d St. and 56th St.; work includes about 2320 sq. ft. cement sidewalks, same amount cinder, excavation, fill (not bid for), curb, etc. (1 year maintenance), total security $1,100; for regulating and repaving with permanent Grade 1 granite pavement on 6-in. concrete foundation portions of Summit, Bowne, Commerce and Verona Sts.; work includes 460 sq. yd. Grade 1 granite pavement with joint filler of coal tar pitch and sand within railroad area, 80 sq. yd. adjacent pavement to be relaid, iron covers and heads for sewer manholes, curbing, etc.; security $7,600.

Olean, N. Y.—Until Feb. 15, by Comrs. Pub. Wks. (Geo. H. Luther, chmn.) for constructing about 19,600 sq. yd. brick pavement and appurtenances in portions of West St., advertised in this issue. Also same place as above, until Feb. 23, for constructing about 3960 sq. yd. brick pavement advertised in this issue.

West Orange, N. J.—Until Feb. 6 for constructing 2950 ft. standard straight concrete curb, 100 ft. standard curved concrete curb, 12,000 sq. ft. standard concrete gutter, 1000 cu. yd. earth excavation; George W. Foster, town clk.

West New York, N. J.—Until Feb. 13 for paving Madison av., 10th to 13th Sts., with bituminous concrete on a 5-in. concrete foundation, including curbs and walks. Chas. F. Henry, town clk.

Philadelphia, Pa.—Until Feb. 6 by Bureau of Highways (William H. Connell, ch.) for Schedule "A," grading portions of Allegheny, Bambrey, Church Lane and many other streets; cost about $105,800.

Baltimore, Md.—Until Feb. 7 by Bd. Awards, City Hall, for grading and paving various alleys with cement concrete; certified check for $500 for contracts Nos. 21, 22 and 24 and $100 for contract No. 23 to accompany bid. R. M. Cooksey, highways engr.

Until Feb. 13, by State Road Comn. (Frank H. Zouck, chmn.), for 8.40 miles roadwork. Contracts: F. 048, Cecil Co.; F. 25, Frederick Co.; and for 2 40-ft. bascule spans, Wo-12, Sec. 2, Worcester Co., and 0266, Sec. 2, between Kent and Cecil Cos.; advertised in this issue.

Fayetteville, W. Va.—Until Feb. 19 by R. J. Stegall, co. clk., for constructing 10 sections co. highway, in all about 45.8 miles; bids received for bituminous macadam (penetration), Portland cement, asphaltic concrete and other improved types of paving; specifications may be obtained from J. K. McGrath, road engr., Mount Hope, and also from clk., but these are not available for distribution.

Philippi, W. Va.—Until Feb. 20 by County Court (S. F. Hoffman, clk.) for grading and constructing about 18.7 miles of macadam roads and 12 concrete bridges in Barbour Co.

Jacksonville, Fla.—Until Feb. 28, by Committee Pub. Wks., of Bd. Bond Trustees, for paving portions of Forsyth St. Work includes 18,746 sq. yd. bitulithic paving and 1514 sq. yd. vitr. block gutter.

Albany, Ky.—Until Feb. 9 by Dept. Pub. Roads (F. Wiley, comr., Frankfort), for road improvement; work includes about 15.36 miles waterbound macadam surface, 6.84 miles grading, 80,000 cu. yd. earth excavation, 10,000 cu. yd. rock excavation, 700 cu. yd. concrete, 17,000 cu. yd. macadam.

Bucyrus, O.—Until Feb. 7 by Trustees Polk Township (C. F. Eise, clk.) for improving portions of Charles St., Winchester, Dice and Bloomingrove roads.

Chicago Junction, O.—Reported desired unitl Feb. 19 by E. K. McMorris, village clk., for paving and curbing portions of Park St. and Woodland Ave.; cost, $16,000.

Indiana.—By Co. Comrs., for constructing following roads:

Feb. 6 Delphi, for grading, paving and improving roads in various twps., H. D. Good, co. aud.

Feb. 6. Logansport, for grading, curbing and paving in Tipton twp., A. P. Flynn, co. aud.

Feb. 7. Wabash, for laying creosoted wood block floor on bridge, F. P. Kircher, co. aud.

Feb. 8. Frankfort, constructing 3 gravel roads; Edward Spray, co. aud. Indianapolis, constructing gravel roads, L. K. Fesler, co. aud.

Feb. 15. Noblesville, Ind., for constructing 7 roads, W. O. Horton, co. aud.

Feb. 16. Brazil, for grading, paving and improving roads in various twps. Wm. O. Graeser, co. aud.

Feb. 19. South Bend, for grading, curbing, paving and improving road in Penn twp., Arthur F. Wolf, co. aud.

Monroe, Mich.—Reported desired until Feb. 14 by Monroe Co. for constructing 15.77 miles of Dixie Highway between Monroe and Wayne Co. line.

Greenup, Ill.—Until about March 1 by city for constructing brick roads; cost about $84,000.

Mattoon, Ill.—Until about May 1 by city for constructing 350,000 sq. yd. brick pavement and 28,000 lin. ft. combined curbs and gutters. J. A. Goetz, city engr.

Traer, Ia.—Reported desired until Feb. 6 by T. F. Stoakes, city clk., for 30,000 sq. yd. pavement.

Madison, S. D.—Until Feb. 19 by Bd. Comrs. (Wm. Rae, city aud.) for paving portions of Egan Ave., 2d and 6th Sts.

Kansas City, Mo.—Until Feb. 7 by Bd. Park Comrs. (T. C. Harrington, secy.) for grading portions of Van Brunt Blvd., cost $40,000; certified check for $750 to accompany bid.

Oklahoma City, Okla.—Reported desired until Feb. 6 by C. F. Semmelbeck, city clk., for paving 52 blocks.

Everett, Wash.—Until Feb. 13 by Snohomish Co. Comrs. (Mae Weatherbee, aud.) for hard surfacing Monroe-King Co. Road, cost $87,000; for hard surfacing Snohomish-Three Lakes Road, cost $30,000; plans may be obtained from W. C. Bickford, co. engr., upon deposit of $25 for each item; certified check for 10 per cent to accompany bid.

Astoria, Ore.—Until Feb. 10 by J. C. Clinton, co. clk., for clearing, grading and paving 4 miles of Lewis and Clark Road, 12 ft. wide, with rock shoulders 1½ ft. wide on each side; about 44,000 yd. paving involved; cost $70,000. G. F. Parker, co. surv.

San Bernardino, Cal.—Until Feb. 17 by Bd. Superv. (L. R. Patty, clk.) for constructing concrete pavements, cement curbs, etc., on 2.25 miles of Central Ave., through town of Chino; 5825 lin. ft. of S. Euclid Ave., in town of Ontario; 3960 lin. ft. of S. 8th St., in town of Colton; 5560 lin. ft. in Colton and portions of Ontario Blvd., Ontario.

PRICES AND LETTINGS

★*Indicates award of contract.*

Atlantic City, N. J.—New Jersey State Supreme Court annulled Jan. 25, contract awarded to Liddle & Pfeiffer, Perth Amboy, at $693,443, by Atlantic Co. Bd. Freeholders, to pave White Horse pike from Absecon to Atlantic Co. line, with Warrenite.

Brooklyn, N. Y.—Following are bids received Jan. 24 by Pres., Boro. Brooklyn, for regulating and repaving portions of (a) Broadway, (b) Hamburg Ave. with granite, (c) Union St. with asphalt, all on 6-in. concrete base; (a) John J. Towers, 102 Sunnyside Ave., Brooklyn, N. Y., $24,263; Rosenthal Engr. Contr. Co., 165 Hooper St., Brooklyn, N. Y., $24,319; Chas. A. Myers Contr. Co., Stagg St. and Morgan Ave., $25,512; Thomas F. Meagher, 230 Jackson St., $26,019. (b) John J. Towers, $28,547; Henry E. Kordes Co., Inc., 243 Moffat St., $30,209; Chas. A. Myers Contr. Co., $30,620; Newman & Carey Co., 215 Montague St., Brooklyn, N. Y., $31,886. (c) Brooklyn Alcatraz Asphalt Co., 407 Hamilton Ave., Brooklyn, N. Y., $24,804; Borough Asphalt Paving Co., 1301 Metropolitan Ave., Brooklyn, N. Y., $26,265.

New York, N. Y.—Following are 4 lowest bids opened Jan. 26 by Douglas Mathewson, pres. Boro. Bronx, Municipal Bldg., 177th St. and 3d Ave., for grading, setting curb, constructing crosswalks, inlets, receiving basins, drains, culverts, approaches and guard rails where necessary in Ellis Ave.: Fred Schneider, Westchester Ave., $20,999; Oscar Daniels, Woolworth Bldg., $21,622; DiMenna & Del Balso, 2336 Cambrelling Ave., $22,055; Louis Di Menna, 2435 Southern Blvd., $23,702. Filling and constructing approaches and guard rails where necessary in Tibbett Ave.: Spadaro Contr. Co., 827 E. 217th St., $34,955; Watson Contr. Co., 2614 University Ave., $39,242; Oscar Daniels Co., $40,620; Thos. Crimmins Contr. Co., 444 E. 69th St., $46,915.

Following are bids opened Jan. 23, by Douglas Mathewson, pres., Boro. Bronx, 177th St. and 3d Ave., New York City, for repairing asphalt block pavement and setting curb where necessary in Bronx Boro.; Hastings Pavement Co., 25 Broad St., $10,817; Asphalt Constr. Co., Madison Ave. and 137th St., $14,965. Furnishing and delivering 9,000 cu. yds. of 1½-in. broken trap rock stone and 3,000 cu. yds. of broken trap rock screenings: New York Trap Rock Co., 17 Battery Pl., $22,560; New Haven Trap Rock Co., 69 Church St., New Haven, Conn., $25,080. Furnishing and delivering 325,000 gals. of tar road oil: The Barrett Co., 17 Battery Pl., $20,480. Furnishing and delivering 800 tons of asphaltic cement: Warren-Quinlan Asphalt Co., Syracuse, N. Y., $16,240; Standard Oil Co., 26 Bway., $16,680; Barber Asphalt Paving Co., Woolworth Bldg., $18,328; Atlantic Refining Co., 3144 Passyunk Ave., Philadelphia, Pa., $19,224. Furnishing and delivering 450,000 gal. asphalt road oil: Standard Oil Co., $27,450; Warren-Quinlan Asphalt Co., $28,575; Headley Good Roads Co., 30th and Spruce Sts., Philadelphia, Pa., $29,205; J. Baker, Jr., 17 Battery Pl., $29,700.

★**Philadelphia, Pa.**—Following bids received by Dept. Pub. Wks., Jan. 18, for road work in connection with South Philadelphia track elevation project: Edwin H. Vare, 1120 Race St., Philadelphia, low bidder, at $144,703; for detail bid see "Water works and Sewerage Systems, Prices and Lettings."

★**Murfreesboro, Tenn.**—Following are bids received Jan. 19 by city for improving Main and College Sts.: West Constr. Co., Chattanooga, Tenn., $38,563 (awarded contract); Thompson-Graham Co., Nashville, Tenn., $40,474; Eli Constr. Co., Charlotte, N. C., $40,887; Murry Constr. Co., Knoxville, Tenn., $41,289. G. B. Howard & Co., engrs., 150 N. 4th Ave., N. Nashville, Tenn.

★**Butler, O.**—Contracts awarded by State Highway Comn., Columbus, for which $118,000 bonds will shortly be issued, for following paving work: With monolithic brick, portions of Dixie Highway, to R. A. McCutcheon Co., Franklin, O., at $55,000, from Middletown to Warren Co. line; also to A. Wirtz Co., Hamilton, O., at $45,000, for section of Hamilton; also from LeSourdsville bridge to Excello bridge; with concrete Hamilton and Scioto pike, to M. T. Connell Co., Cambridge City, Ind., at $18,000.

Ohio.—Following bids opened Jan. 16 by State Highway Comn., Columbus, for paving with (a) brick with grout filler and granite curb, (b) brick with mastic filler and granite curb: Sect. A, Carthage-Hamilton road, Foster, Mings & Slayton, Richmond, Ind. (b) $131,870, (a) $134,194; Kirchner Constr. Co., Cincinnati, O. (a) $141,883; T. J. Connell, Cambridge City, Ind. ((b) $143,346. Sect. M, Portsmouth-Lucasville road: Seiple & Wolf Constr. Co., Youngstown, O., $14,113.

★**Park Ridge, Ill.**—Contract awarded (bids opened Jan. 16) by city to Standard Paving Co., 29 S. LaSalle St., Chicago, Ill., for paving 5460 sq. yd. on Center St. with asphaltic concrete, together with concrete crosswalks and sewer work.

★**Houston, Tex.**—Contract awarded by city to Horton & Horton, Houston, Tex., at $49,200, for paving section of Harrisburg Blvd. in city with Uvalde rock asphalt.

★**Chino, Cal.**—Contract awarded by city (bids opened Jan. 24) to Geo. R. Curtis, 552 South St. Louis St., Los Angeles, Cal., at $22,813, for paving 179,374 sq. ft. with 1½-in. Topeka on 4-in. concrete base and resurfacing 28,640 sq. ft.; also constructing 29,390 sq. ft. cement walks, 3615 lin. ft. cement curbs, and excav. 4490 cu. yd. in portion of D St.

★**Fillmore, Cal.**—Contract awarded by city to Crown Contr. Co., Van Nuys Bldg., Los Angeles, Cal., at $16,153, for constructing concrete curbs and sidewalks on several streets.

★**Hanford, Cal.**—Contract awarded by county to Blanchard-Brown Co., Call Bldg., San Francisco, Cal., for constructing 11 miles of co. highway at 75 cents per cu. yd. for excav. and at 4½ cents per cu. yd. for 1½-in. Topeka pavement on 2½-in. asphaltic concrete base.

Huntington Beach, Cal.—Following are 2 lowest bids opened Jan. 18 by city for improving Ocean Ave.; Leigh G. Garnsey, Central Bldg., Los Angeles, Cal., $59,657; Rogers Bros. Co., Hibernian Bldg., Los Angeles, Cal., $61,381.

★**Los Angeles, Cal.**—Contract awarded by city to Fairchild-Gilmore-Wilton Co., Pacific Elec. Bldg., at $13,691, for paving with bitulithic 52,285 sq. ft. and constructing 2417 lin. ft. cement curbs and 11,910 sq. ft. cement walks; also some sewer work in portion of 2d St.

RAILWAYS
Steam and Electric

PROPOSED WORK

Bloomfield, N. J.—Erie RR. Co. (R. S. Parsons, ch. engr., New York) reported considering elimination of grade crossing on Orchard and Walnut Sts.; also planning new bridges at Williamson and Arlington Aves.

Steelton, Pa.—Pennsylvania RR. Co. (Alex. C. Strand, ch. engr., Philadelphia) considering construction of 3 additional tracks at grade crossing at Trewick, Conestoga and Franklin Sts.

Ocean City, Md.—Plans being prepared to construct an electric railway about 8 miles along the beach on Fenwick Island. Thos. E. O'Connell, Phoenixville, Pa., reported interested.

★**Columbia, S. C.**—Reported an electric line will be constructed from here by way of Lexington to Saluda and then on to Greenwood, where it will connect with Piedmont and Northern. G. A. Guignard, Columbia, reported interested.

Sarasota, Fla.—West Coast Electric Ry. Co. (A. E. Townsend, gen. mgr.) reported having surveys made by Hiram McElroy, Tampa, for constructing electric railway from Tampa to Bradentown and Sarasota, distance about 50 miles.

New Orleans, La.—Reported Orleans-Kenner Electric Ry. (E. A. Stanford, pres., Maison Blanche) plans constructing electric railway between Kenner and Destrehan, a distance of 6 miles.

Columbia, Miss.—Fernwood & Gulf RR. Co. (F. B. Enochs, gen. mgr., Fernwood) will extend its standard gauge line a distance of 5 miles from Kokomo to Columbia.

Seville, O.—Cleveland, Southwestern & Columbus Ry. Co. (E. F. Schneider, gen. mgr., Cleveland), considering extension of electric railway from here to Wadsworth, via Rittman.

Tipton, Ind.—Tipton-Frankfort Traction Co. will ask Council for a franchise to construct an electric railway line here. R. D. Wynn, Tipton, reported interested.

Springfield, Ill.—Articles of incorporation were issued to Franklin County Traction Co. to operate railroad from North City through the cities of Christopher, Buckner, to Benton in Franklin Co.; capital stock $50,000. Incorporators, C. F. Gardner, F. B. Bushman, B. B. Gardner and Chas. C. Baldwin.

St. Paul, Minn.—Chicago, Milwaukee & St. Paul Ry. Co. (A. J. Earling, pres., Chicago, Ill.) has sold $25,000,000 in bonds for improvement of its railroad.

Marlin, Tex.—Marlin, Temple Interurban Co. (S. D. Hanna, ch. engr.) plans constructing electric railway through Temple, Belfalls, Durango, The Falls and Marlin; it will cross the Brazos River on a bridge to cost $53,500; cost of road estimated at $450,000; work to begin immediately.

Pendleton, Wash.—Construction of 25-mile railroad tapping wheat lands of Cold Springs Co., planned by business men and farmers. Col. J. H. Raley, of Cold Springs, reported interested.

Sunnyside, Wash.—Northern Pacific Ry. (H. E. Stevens, ch. engr., St. Paul, Minn.) will at once begin standardizing its Sunnyside branch, between North Yakima and Sunnyside; appropriation of $360,000 available for work.

Portland, Ore.—Reported Oregon, Washington RR. & Navigation Co. (S. Murry, ch. engr.) will spend $3,000,000 this year for improvements of track and road beds between Portland and Umatilla to Huntington to Ripraria, to Spokane and Burke, etc.

Pittsburg, Cal.—Oakland, Antioch & Eastern Ry. (S. L. Naphtaly, ch. engr., San Francisco) reported planning extension from here to Antioch.

Coeur d'Alene, Idaho.—Northern Pacific Ry. Co. (H. E. Stevens, engr., St. Paul, Minn.) has petitioned council for franchise to construct a spur track to connect with Spokane & Inland Empire system running to Hayden Lake.

Pocatello, Idaho.—Oregon Short Line plans expenditure of more than $4,000,000 for improvements during year; work to include improving roadbed, laying heavier steel and construction of heavier bridges.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Jersey City, N. J.**—Contract awarded Henry Steers, Inc., Greenville, for new car repair yard, new tracks in westbound receiving yard and make-up yards at Greenville freight terminal of Pennsylvania RR.

★**Philadelphia, Pa.**—Following are unit figures of principal items of E. H. Vare, Lincoln Blvd., successful bidder for contract 206, South Philadelphia track elevation (bids opened Jan. 18 by Dept. Pub. Wks.); total of his bid was $230,998 and calls for concrete sewer construction; 47,500 cu. yd. street grading, 70 cts.; 4350 cu. yd. excav., 60 cts.; 3330 cu. yd. rubble masonry underpinning and foundations of buildings, $8.50; 100 cu. yd. concrete masonry around column footings, $13, and same amount in retaining walls and steps, $12; 17,500 m. ft. lumber for railings erected, $90 per M. ft.; 92,700 M. ft. yellow pine for steps and railings, $85; 7600 sq. yd. granite block on concrete base, $4.20; 9000 sq. yd. granite block on gravel base, $3.40; 5000 sq. yd. granolithic sidewalks, $1.40; 3700 lin. ft. 8-in. straight-cut granite curb, $2.20; 500 lin. ft. 8-in. curved cut granite curb, $2.90; 1400 lin. ft. old curb reset, 14 cts.; inlets removed and rebuilt, $85; new inlets, $110 and $120 each; 1500 lin. ft. 5 or 6-in. vitr. clay pipe, 76 cts.; 120 house connections, $14; 253 tons c. i. water pipe, 18-in. and over, $46; 3600 lin. ft. water mains to remove and relay, $1.50; 6 tons special castings, $100; 5280 lb. lead service pipe placed, 24 cts.; 1000 lb. lead service pipe delivered, 16 cts.; 11,000 lb. pig lead, 10 cts.; 57,800 lb. steel wedges for underpinning, 6 cts.; 1000 lb. steel rods in concrete, 5 cts.; concrete sewers in earth and rock as follows: 425 lin. ft. 2 ft. 3-in. x 1 ft. 6-in., $0.20; 241 lin. ft. 2 ft. 3-in. x 1 ft. 6-in., with vitri. brick invert, $10.90; 1550 lin. ft. 2 ft. 6-in. x 1 ft. 8-in., $10.25; 48 lin. ft. 2 ft. 6-in. x 1 ft. 8-in. with vitri. brick invert, $10.90; 624 lin ft. 3 x 2 ft., $10.50; 402 lin. ft. 3 ft. 6-in. x 2 ft. 4-in., $11.40; (alternate bids on brick sewer, same quantities and sizes, as follows: $9.80, $10.50, $10.40, $10.50, $10.40, $10.90). Concrete sewers in reduced cradle as follows: 10 lin. ft. 2 ft. 3-in. x 1 ft. 6-in., $10.90; 10 lin. ft. 2 ft. 3-in. x 1 ft. 6-in. with vitri. brick invert, $11.75; 10 lin. ft. 2 ft. 6-in. x 1 ft. 8-in., $10.90; 10 lin. ft. 2 ft. 6-in x 1 ft 8-in., $11.75; 10 lin. ft. 3 ft. 6-in x 2 ft. 4-in., $13. Totals of next 3 lowest bids on concrete construction: McNichol Paving & Constr. Co., 1923 Cherry St., $240,895; Adolph Jafolla, Lincoln Bldg., $259,695; Jos. Perna, 300 N. 65th St., $303,895; James W. Phillips, asst. engr., Dept. Pub. Wks.

★**Akron, O.**—Contract awarded P. T. Clifford & Son, Valparaiso, Ind., for track work in connection with expensive improvements to yards of Pennsylvania RR. Co. here.

★**South Bend, Ind.**—Contract awarded to Pennsylvania Steel Co., Pittsburgh, Pa., for new steel rails for North Side line of Chicago, South Bend & Northern Indiana R. R. Co., between here and Mishawaka. Estimated cost of rails, pavement and section work is $155,662; 1035 tons of steel will be delivered and is expected to arrive April 1.

★**Kalispell, Mont.**—Contract awarded by Great Northern Ry. (A. H. Hogeland, ch. engr., St. Paul, Minn.) to Grant Smith & Co., Henry Bldg., Seattle, for constructing 30 miles of railroad out of Kalispell.

★**Shelby, Mont.**—Contract awarded by Great Northern Ry. Co. (A. H. Hogeland, ch. engr., St. Paul, Minn.) to Porter Bros., Spokane, for grading and laying 25 miles of second track between here and Cutbank.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK

Portsmouth, N. H.—Plans being prepared by Harry M. Hope, 185 Devonshire St., Boston, for power plant extension to cost $200,000 for Rockingham County Light & Power Co., 29 Pleasant St., Portsmouth.

New Bedford, Mass.—Reported Taunton-New Bedford Copper Co. will rebuild plant recently destroyed by fire, with loss of $275,000.

Palmer, Mass.—Reported Wright Wire Co. of Worcester, Mass., plans erecting 2 additions to their plant here, 1, 70 x 200 ft., 2 stories, the other, 80 x 184 ft., 1 story, of brick construction.

East Providence, R. I.—Reported Philipsdale Paper Mill Co. will erect $50,000 addition to present plant.

Derby, Conn.—Reported General Ordnance Co. plans erecting $100,000 addition to present plant. E. W. Chaffer, Gen. Mgr.

Killingly, Conn.—Plans being prepared by Chas. T. Main, 201 Devonshire St., Boston, for erecting 3-story, 130 x 500 ft., yarn mill for Killingly Mfg. Co. Robt. D. Boys, mgr., Williamsville, Dist., Killingly.

Elizabeth, N. J.—Reported Standard Electric Fixture Co. of Bridgeport, Conn., plans erecting 4-story, 100 x 300-ft. fireproof factory building here; cost $100,000. Address Mayor Victor Mravlag, 1062 E. Jersey St.

Newark, N. J.—Reported Central Dyestuff & Chemical Co., Plum Point Lane, will erect 4-story warehouse, 75 x 129 ft.; cost $80,000.

Trenton, N. J.—Lenox, Inc., mfr. of pottery and china, plan erecting additions to plant on Prince St., North Trenton, to cost $100,000. Walter S. Lenox, Pres.

Essington, Pa.—Reported Westinghouse Electric & Mfg. Co., Union Bank Bldg., Pittsburgh, plans erecting $7,000,000 plant here.

Lancaster, Pa.—Reported Frain Lock Co. will erect additional 5-story fireproof factory on Hamilton St. Site was recently purchased.

Baltimore, Md.—Reported Electrolytic Zinc Co., 16th St. and 2d Ave., with plant at Highlandtown, plans erecting $75,000 plant in the same section.

Reported Armour & Co., Chicago, purchased Herman Hotel property and shoe store adjoining at N. W. corner of Eutaw and Pratt Sts., for site of new cold storage plant to be erected here; cost about $200,000.

Reported Wilson & Co., meat packers, Chicago, will erect packing plant here to cost $75,000.

Cleveland, O.—Reported Nat'l Malleable Castings Co., 7706 Platt Ave., will erect plant at Belt Line RR. and Woodhill RR. costing about $250,000.

Oak Harbor, O.—Reported J. W. Weller Co. will erect plant for canning and pickling here; cost $60,000.

Frankfort, Ind.—Reported Monon officials of Chicago, Indianapolis & Louisville Ry. (A. S. Kent, chief engr.) plan erecting new freight depot and extensive yards in this city; to cost about $50,000.

Cudahy, Wis.—Reported Federal Rubber Mfg. Co. is having plans prepared for erecting power plant addition to cost $200,000.

Elkhorn, Wis.—Reported Frank Holton Band Instrument Co., 2638 Gladys Ave., Chicago, will erect factory to cost $50,000 here.

Superior, Wis.—Reported Ajax Frog & Switch Co., Blue Island, Ill., will erect factory on Winter St., near Standard Oil Co., to cost $100,000. Work to start soon.

St. Paul, Minn.—Plans were prepared by D. S. Dever, 7055 Germania Life Bldg., archt. and mech. engr., for erecting storage and public garage, 4-story and basement, to cost $75,000. C. C. Stetson, 22 W. 24th St. and 2262 Carroll Ave., promoter.

Winona, Minn.—Reported Chicago & Northwestern Ry. Co. (W. H. Finley, ch. engr., Chicago) will erect machine shop and extend engine house to cost about $421,000.

Omaha, Neb.—Reported Kirschbaum & Sons Co., 9th and Dodge Sts., plan erecting warehouse; cost $250,000.

Mandan, N. D.—Reported Missouri Valley Grocery Co. taking bids for erecting warehouse; cost $50,000. C. A. Boehme, 502 Kasota Bldg., Archt.

Redfield, S. D.—Contract will be let in spring for superstructure of home for feeble-minded, of reinforced concrete and brick, to cost $250,000. C. H. Johnston, 715 Capital Bank Bldg., St. Paul, archt.

Miles City, Mont.—Reported Otis & Co. (G. S. Otis, pres.) will erect packing plant; cost about $100,000.

Mt. Vernon, Wash.—Reported Carnation Milk Products Co., Hoge Bldg., Seattle, will erect milk condensery here to cost $125,000. Work will be started in spring.

Seattle, Wash.—Reported Black Construction Co., Alaska Bldg., Seattle, will begin shortly on erecting 4-story addition to Bemis Bag Co., 1508 Colorado St., to cost $175,000.

Los Angeles, Cal.—Plans being prepared by F. Pierpont Davis and Walter S. Davis, 621 Exchange Bldg., for erecting 4 to 6-story, 120 x 77 ft., store building at N.E. corner 6th and Broadway, for O. H. Churchill Co. and Rowan Estate, Title Insurance Bldg.

San Diego, Cal.—Reported Arthur Savage of Savage Tire Co., San Diego, and Savage Arms Co., is seeking site of three or four acres upon which to erect $250,000 arms factory.

Santa Paula, Cal.—Reported Santa Paula Citrus Fruit Assn. will erect packing house having a capacity of 1000 cars per day on 4th St.; probable cost $50,000.

BIDS DESIRED

Philadelphia, Pa.—Until Feb. 8, by Philadelphia & Reading R. R. (S. T. Wagner, ch. engr.) for erecting new power house, water supply system and 4-ton traveling crane at Emerald St. yards; Samuel T. Wagner, archt.

Lenox, Ky.—Until Mar. 1, for erecting saw mill plant for Lenox Saw Mill Co. Cost $50,000. Address W. S. Whiting, pres.

Green Bay, Wis.—Until about Feb. 15 for pickling plant; cost about $200,000. Alert & McGuire, 600 N. Broadway, owners. Carr & Walsh, 603 Minehan Bldg., archts.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Rochester, N. Y.**—Contract awarded by Vacuum Oil Co. to Turner Construction Co., 11 Broadway, New York, for erecting additional factory to present plant; building will be 247 x 80 ft., 3 stories and basement.

★**Brammell Point, N. J.**—Contract awarded by Vacuum Oil Co. to Turner Construction Co., 11 Broadway, New York City, for erecting filter building, 135 x 60 ft., 3 stories high, at refinery.

Caldwell, Idaho.—See "Reinforced Concrete."

BUILDINGS
Public and Private

PROPOSED WORK

Randolph, Mass.—Plans being prepared by Wm. Chapman, 15 Ashburton Pl., Boston, for erecting tuberculosis hospital to cost $75,000. John F. Merrill, Old South Bldg., Boston, reported interested.

Wrentham, Mass.—Plans being prepared by Kendall, Taylor & Co., 93 Federal St., Boston, for erecting 2-story assembly bldg. for State House; cost $52,000. Owners, State House; M. J. O'Meara interested.

Atlantic City, N. J.—Plans being prepared by C. M. Adams and V. Mathis, Atlantic City, for erecting church edifice for First Baptist Church here, to cost $100,000. Structure to be of brick and stone, 1-story.

Atlantic City, N. J.—Reported Herr Corporation of New Jersey will erect 14-story hotel on Mississippi Ave.; cost about $2,500,000. Philip L. Poe, Light and German Sts., Baltimore, reported interested.

Camden, N. J.—Reported Common Council will issue $412,000 bonds for purchase of lands for school purposes and for erecting addition and enlarging school houses. Wm. D. Brown, city clk.

Elizabeth, N. J.—Reported Assemblyman Charles L. Morgan, Elizabeth, is seeking appropriation for erecting State Normal School here, to cost $200,000.

Greenville, N. J.—Reported Directors German Hospital, 340 Bank St., Jersey City, plan erecting wing to cost about $50,000 to hospital.

Millville, N. J.—Reported Bd. Educ. plans erecting public school building to cost $80,000.

Montclair, N. J.—Reported management of Montclair State Normal School will ask legislature for $285,000 appropriation for erecting building and improving Rush Memorial Bldg. Geo. Drew, state archt., State House, Trenton.

Newark, N. J.—Reported Bd. Educ. plans erecting 14-room addition to 15th Ave. School; cost about $200,000. Address Frank H. Sommer.

Phillipsburg, N. J.—Reported government will erect federal building at cost of $60,000.

Vineland, N. J.—Reported School Board plans erecting 12-room school to cost about $50,000.

Altoona, Pa.—Reported Altoona Turners' Society plans erecting clubhouse to cost about $50,000.

Connellsville, Pa.—Reported Connellsville Lodge, L. O. O. M., purchased site in Apple St. on which to erect lodge nome at cost of $75,000.

Erie, Pa.—Reported Erie School Directors will erect 2 new school buildings to cost about $550,000.

Coatesville, Pa.—Contract will soon be let for erecting proposed bank building for Nat'l Bank of Chester Valley, Coatesville, Pa., to cost $50,000.

Harrisburg, Pa.—Reported Bd. Public Charities recommends following appropriations for erecting buildings for next 2 years: State institutions, $2,743,303; semi-state institutions, $193,428 and application for $3,049,758 for new buildings for hospitals.

Tamaqua, Pa.—Reported Tamaqua School Board plans erecting high school building to cost about $100,000.

Baltimore, Md.—Reported contract will soon be let for improvements to Emmanuel Protestant Episcopal Church; cost not less than $75,000.

Bogalusa, La.—Plans being prepared by Rathbone DeBuya, Hibernia Bank Bldg., New Orleans, for erecting city hall and jail to cost $50,000.

Lexington, Ky.—Bids were received by Richards, McCarty & Bulford for erecting $100,000 church. Contract not yet awarded.

Cincinnati, O.—Reported plans for $250,000 addition to Longview Hospital have been completed by Elzner & Anderson, 136 Ingalls Bldg.

Cleveland, O.—School bonds for $500,000 will be sold Feb. 19 by Sarah E. Hyre, clk. bd. educ., E. 6th St. and Rockwell Ave.

Reported St. John Nepomucene congregation is having plans prepared by W. C. Jensen, archt., 1891 West 52d St., for erecting church edifice at Fleet Ave. and E. 50th St.; cost $90,000.

Plans being prepared by S. H. Weis, archt., Schofield Bldg., for erecting 4-story commercial and apartment building at Superior Ave. N. E. and E. 115th St. for B. Spivack; cost about $50,000.

Franklin, O.—Plans being prepared by Edw. J. Mountstephen, 805 U. B. Bldg., Dayton, O. Dr. L. S. Stahl, pres., Bd. Educ.

Lima, O.—Rev. A. E. Manning of St. Rose Church announces erection of $150,000 hospital for Sisters of Charity will be constructed.

Shaker Heights, O.—Plans being prepared for erecting 3-story high school building to cost $300,000. Star Cadwallader, chm., Bldg. Co., Bd. Educ.

Indianapolis, Ind.—Reported school bonds for $175,000 will be sold Feb. 7 by John E. Cleland, business mgr., bd. educ.

South Bend, Ind.—Reported Sheridan Hotel Realty Co. plans erecting hotel building here to cost $375,000. Incorporators are F. A. Deahl, Mrs. Adel Bickford, C. A. Stanton.

Marquette, Mich.—Reported Northern State Normal School will ask state legislature for appropriation of $150,000 for erecting training building.

Muskegon, Mich.—Reported Michigan Odd Fellows will erect $100,000 temple at corner of Webster and Jefferson Sts., opposite post office.

Chicago, Ill.—Plans being prepared by Wm. F. Pagels, 19 S. LaSalle St., for erecting 5-story and basement lodging house; cost, $200,000.

Kenosha, Wis.—See "Reinforced Concrete."

Manitowoc, Wis.—Reported Elks have increased capital stock to $50,000 and will probably erect clubhouse soon.

Cedar Rapids, Ia.—Plans being prepared for erecting dormitory and dining hall for Coe College (J. A. Marquis, pres.). Edward L. Tilton, 32 Broadway, New York City, archt.; cost $90,000.

Cedar Rapids, Iowa.—Plans were prepared by Ernest Kennedy, 516 Essex Bldg., Minneapolis, for erecting store and office building for Elmer A. Higley, Granby Bldg., Cedar Rapids; cost $100,000.

Clinton, Ia.—See "Subways and Tunnels."

Independence, Ia.—Reported Geo. Blainer property was purchased by county hospital committee for $7,000 on which will be erected new city hospital to cost $75,000; $60,000 available.

New Hampton, Ia.—Plans being prepared by Bankers' Realty Co., Bee Bldg., Omaha, Neb., for erecting 132 x 22, 3-story hotel, to cost $60,000. North American Hotel Co., owners.

Newton, Ia.—Plans being prepared by Temple and Burrows, 73 Davenport Savings Bank Bldg., Davenport, for erecting 2-story junior high and grade school to cost $115,000.

Sioux City, Ia.—Reported Woodbury Co. will sell $100,000 bonds for erecting county home. E. E. Hosmer, co. aud.

Aurora, Minn.—Plans being prepared by Tyrie & Chapman, Auditorium Bldg., Minneapolis, for erecting high school building. W. J. Rashleight, secy. bd. educ.; cost, $125,000.

Hutchinson, Minn.—Reported Braun & Sowle plan erecting store building to cost $60,000. S. E. Jacobson, 601 Capital Bank Bldg., St. Paul, Minn., archt.

Arkansas City, Kan.—Citizens voted $70,000 for erecting school. W. M. Stryker, secy. bd. educ.

Fremont, Neb.—Election for bond issue of $100,000 for erecting court house carried. John O'Connor, co. clk.

Holdrege, Neb.—Reported Methodist Congregation plans erecting church edifice to cost $60,000.

Crosby, N. D.—Plans being prepared by Beuchner & Orth, 500 Shubert Bldg., St. Paul, Minn., for erecting jail and courthouse, 2-story and basement; cost $80,000.

Richardton, N. D.—Plans being prepared by Herman Gaul, Conway Bldg., Chicago, for erecting monastery for St. Mary's Abbey. Care Rev. Placid Holner, O. S. B. Abbot, Bismarck Diocese, Richmond.

Brookings, S. D.—Reported Bd. Educ. plans erecting high school building, to cost $65,000. Tyrie and Chapman, archts., 320 Auditorium Bldg.

Mitchell, S. D.—Plans were prepared by J. C. Chapman, Paulton Block, Sioux Falls, S. D., for erecting 3-story and basement, 84 x 103-ft. hospital, to cost $75,000, for Methodist State Hospital. G. T. Notson, secy., Mitchell.

Butte, Mont.—Reported plans being prepared for erecting Deaconess Hospital in Wilson Park Addition. Rev. J. H. Mitchell, secy. of building committee; cost $125,000.

Reported Col. J. W. Cousins, Denver, in charge of Montana territory, Salvation Army, reports Salvation Army hall will be erected in spring. Structure will be located on E. Broadway and will cost $75,000.

Deer Lodge, Mont.—Plans prepared by Linck & Hair, Helena, for proposed high school building to be submitted to special committee of the high school board.

Newport, Ark.—Reported Senator John K. Shields introduced bill for appropriation of $75,000 for post office here.

Port Arthur, Tex.—Reported efforts being made by citizens and organizations here to secure passage of bill through legislature to provide for appropriation of $65,000, covering cost of erecting building quarantine regulations here.

Victoria, Tex.—Reported citizens in recent election voted $85,000 for erecting high school building here. Address Mayor.

Oklahoma City, Okla.—Election will be held Feb. 6 to vote on $650,000 bond issue for erecting four school buildings.

Tulsa, Okla.—Election will be held Feb. 6 to vote on $500,000 bond issue for improving school buildings.

Pueblo, Col.—Atchison, Topeka & Santa Fe RR. Co. (C. F. W. Felt, ch. engr., Chicago, Ill.) plans constructing additional switch tracks and erecting freight sheds; $50,000 has been appropriated for this purpose.

Mount Vernon, Wash.—Reported high school building bonds for $60,000 will be sold Feb. 7 by W. R. Wells, treas. Skagit Co. Stephen & Stephen, N. Y. Bldg., Seattle.

Seattle, Wash.—Contract awarded James Murdock, Lumber Exchange Bldg., Seattle, for erecting 3-story and basement, 83 x 108-ft. brick and terra cotta apartment house on corner of Fremont Ave. and 50th St. for Goodwin Realty Co., Leary Bldg.; cost $60,000.

Spokane, Wash.—Reported Trustees St. Luke's Hospital (Lawrence Jack, pres. bd. trustees) will rebuild hospital recently destroyed by fire; new building will cost $200,000.

Corvallis, Ore.—Reported Bd. Educ. plans altering present school building by adding auditorium and from 8 to 12 additional rooms; cost $50,000.

Marshfield, Ore.—Reported Council voted to deed city park block as site for erecting armory and convention hall. County will appropriate $20,000 and state $40,000 for erection of structure.

Oregon City, Ore.—Reported preliminary plans for erecting clubhouse for Oregon City Young People's Institute have been prepared and construction will begin shortly on $70,000 structure.

Salem, Ore.—Plans being prepared by Archt. Fred A. Lagg, Salem, for erecting hospital building for Salem Hosptial Assn., to cost about $50,000.

Oroville, Cal.—Election will be called soon for issuing $75,000 school bonds.

Tucson, Ariz.—Plans being prepared by Starkweather & Dietrich, Tucson, for erecting 5-story and basement office and store building at Stone Ave. and Broadway for Mrs. Alice Cameron; cost about $150,000.

BIDS DESIRED

Chicopee, Mass.—Reported desired until Feb. 19 by Geo. E. Haynes, 184 North St., Pittsfield, archt., for erecting 3-story, 200 x 285 x 87-ft. high school building; cost about $50,000.

Albany, N. Y.—Until Feb. 20, by W. W. Wotherspoon, supt. pub. wks., Capitol, for contracts Nos. 141, 153, and terminal contract No. 44, Canal Improvements, consisting of new power station at Lock 29, etc., and for constructing barge canal terminal at Mott Haven, New York City.

New York, N. Y.—Until Feb. 5, by Burdette G. Lewis, comr. correction, Municipal Bldg., New York, for erecting drug hospital on Riker's Island, Bronx Boro.; separate bids for heating, plumbing and electrical work; security 30%.

Until Feb. 19, by John A. Kingsbury, comr. pub. charities, Municipal Bldg., for Contract No. 1, for erecting cottage dormitories 7, 10, 12, 14, 48 and 49, and infirmary No. 16 at Randall's Island; separate bids on electrical work, plumbing, heating and ventilating; security $355,000.

Until Feb. 7 by State Armory Comn. (Franklin W. Ward, secy.), 158 State St., Albany, for repairing State Arsenal, 7th Ave. and 35th St., New York; advertised in this issue.

Erie, Pa.—Reported desired until Feb. 15 by Bd. Educ. (W. J. Flynn, bus. mgr., bd. educ.) for erecting high school building on 9½ acres of ground; cost $350,000; also grade school, 2-story and basement, cost about $200,000. W. B. Ittner, archt., Bd. Educ. Bldg., St. Louis, Mo.

New Brighton, Pa.—Reported desired until March 1 by Bd. Educ. (D. C. Shofield, secy.) for erecting 3-story and basement, 145 x 127-ft. high school building. W. G. Eckles, Lawrence Savings & Trust Bldg., New Castle, archt.

Philadelphia, Pa.—Until Feb. 10, by First Reformed Church, for erecting 1 and 2 story, 100 x 133 ft., stone church and Sunday school building at Locust St.; Stuckert & Co., archts., Crozer Bldg.

West Chester, Pa.—Until Feb. 22, for erecting 130 x 146, 3 story brick and concrete school building; Paul A. Davis 3rd, archt., 1713 Sansome St., Philadelphia.

Pulaski, Va.—Until Mar. 8, by Jas. A. Wetmore, superv. archt., treas. dept., Washington, D. C., for erecting U. S. post office building.

Leesburg, Ga.—Reported desired until Feb. 20 by T. S. Burton, chmn. co. bldg. com. (change of date), for erecting court house. J. J. Baldwin, archt., Anderson, S. C.

Statesboro, Ga.—Until Mar. 14, by Jas. A. Wetmore, superv. archt., treas. dept., Washington, D. C., for erecting U. S. post office building.

Hammond, La.—Until March 9, by Jas. A. Wetmore, superv. archt., treas. dept., Washington, D. C., for erecting U. S. post office building; advertised in this issue.

Laurel, Miss.—Reported desired until Feb. 15, by Rev. L. G. Gates, chmn. bd. trustees, South Mississippi Charity Hospital, for erecting hospital building; separate bids for heating, plumbing and wiring; cost about $75,000; Xavier A. Kramer, archt. & engr., Magnolia.

Martin, Tenn.—Until Mar. 12, by Jas. A. Wetmore, superv. archt., treas. dept., Washington, D. C., for erecting U. S. post office building.

Cleveland, O.—Until Feb. 16 by Carl Lorenz, secy. pub. library bd., 1375 Euclid Ave., for erecting library building on northwest side of Jefferson Ave.

Grand Rapids, Mich.—Until Feb. 26, by Bd. Educ. (H. N. Morrill, mgr.) for erecting 3 story fireproof Fountain School Bldg.; H. H. Turner, 234 N. Division Ave., Grand Rapids, archt.; advertised in this issue.

Marquette, Mich.—Reported desired until Feb. 10, by Bd. Educ., for erecting 3-story high school building; cost about $150,000; J. D. Chubb, 109 N. Dearborn St., Chicago, Ill., archt.

Galesburg, Ill.—Until Feb. 12 by Br. Educ. (William L. Boutelle, clk.) for erecting gymnasium; plans may be obtained from Aldrich & Aldrich, archts., Galesburg.

Savanna, Ill.—Until March 6, by Jas. A. Wetmore, superv. archt., treas. dept., Washington, D. C., for erecting U. S. post office building.

Cedar Rapids, Ia.—Reported desired until March 1 by W. F. Hunting, secy. Y. M. C. A., and J. Killian, chmn. bldg. com., for erecting 4-story, 136 x 132 ft. brick and stone fireproof Y. M. C. A. building; cost about $160,000. W. J. Brown, 602 American Trust Bldg., archt.

Dawson, Minn.—Until Feb. 17 by Library Bd. (H. O. Halvorson, secy.), First National Bank Bldg., Dawson, for erecting public library building; plans may be obtained from J. C. Hanson, city clk., upon deposit of $10.

Hiawatha, Kan.—Until Mar. 13, by Jas. A. Wetmore, superv. archt., treas. dept., Washington, D. C., for erecting U. S. post office building

Paola, Kan.—Reported desired until Feb. 22 by Bd. Educ. (E. K. Thompson, secy.) for erecting 2-story and basement school building; cost about $60,000. T. W. Williamson & Co., Topeka, archts.

Sedan, Kan.—Reported desired until Feb. 20 by Co. Comrs. (C. W. Floyd, chmn.) for erecting 2-story and basement, brick, reinforced concrete, fireproof court house building; cost about $50,000. Geo. P. Washburn & Son, archt., Ottawa.

St. Edward, Neb.—Until Feb. 10 by School Bd. Dist. No. 17 (Judson C. Wilson, secy.) for erecting high school building; separate bids for heating, plumbing, ventilating. R. A. Bradley & Co., archts., Exchange National Bank Bldg., Hastings; certified check for $300 to accompany bid.

Madison, S. D.—Until March 6, by Jas. A. Wetmore, superv. archt., treas. dept., Washington, D. C., for erecting U. S. post office building.

Basin, Wyo.—Reported desired until March 3, by Big Horn Co., for erecting 3-story, 60 x 80 ft., court house building; cost about $60,000; W. N. Bouman, 916 Central Savings Bank Bldg., Denver, Col., archt.

Bay City, Tex.—Until March 7 by Jas. A. Wetmore, superv. archt., Treas. Dept., Washington, D. C., for erecting U. S. post office building; advertised in this issue.

Juneau, Alaska.—Until Feb. 12 by School Bd. (E. W. Pettit, secy.) for erecting school; separate bids for heating, plumbing and electrical work; cost $65,000. Harlan Thomas, archt., Arcade Bldg., Seattle, Wash.

PRICES AND LETTINGS

★*Indicates award of contract.*

Sonyea, N. Y.—Following are 4 lowest bidders for erecting dormitories Nos. 2 and 3 at Craig Colony for Epileptics, awarded as follows: Construction, Curran & Swartout, Rochester, N. Y.; heating work, the R. T. Ford Co., Rochester, N. Y.; plumbing, R. T. Ford Co., Rochester, N. Y.; electric, Alfred J. Beuerlein, Mt. Morris, N. Y.

★**New Brunswick, N. J.**—Following are 4 lowest bids received by Y. M. C. A. for erecting Y. M. C. A. building: Hughes & Foulkrod Co., Commonwealth Bldg., Philadelphia, at $107,700 (awarded contract); Geo. W. Willis & Co., New York City, $108,245; Matthews Constr. Co., Princeton, at $110,591; Flynt Bldg. & Constr. Co., 30 Church St., New York City, at $111,123.

★**Bryn Mawr, Pa.**—Contract awarded Jacob Myers & Sons Co., Witherspoon Bldg., Philadelphia, for alterations and 3-story addition to Bryn Mawr Hospital, at $50,000.

★**Butler, Pa.**—Contract awarded by Bd. Educ. to John Hobaugh and Harry Wimer, Butler, at $239,955 for erecting high school building.

★**Harrisburg, Pa.**—Contract awarded by Bd. Directors, Harrisburg Academy, to W. S. Miller, Telephone Bldg., for erecting dormitory to academy; cost $55,000.

Marian, S. C.—Following are 4 lowest bids received by Superv. Archt., Washington, D. C., Treasury Dept., Jan. 18, for erecting U. S. Postoffice complete: (a) limestone, (b) sandstone; P. D. Hay, Charleston, S. C., (a) $49,638, (b) $50,118; Geo. Becking & Son, Chattanooga, Tenn., (a) $41,822; Algernon Blair, Montgomery, Ala., (a) $43,139; W. H. Fissel & Co., Marbridge Bldg., New York City, (a) $52,500, (b) $53,500; G. W. Stiles Constr. Co., Rookery Bldg., Chicago, Ill., (a) $44,568.

★**East St. Louis, Ill.**—Contract awarded by Superv. Archt., Treasury Dept., Washington, D. C., to R. P. Farnsworth & Co., Evansville, Ind., at $194,000, for erecting extension to U. S. Postoffice here.

Fremont, Wis.—Following are 4 lowest bids received Jan. 22 for erecting courthouse for Dodge County: Olson & Johnson, Missoula, Mont., $119,675; The Rowles Co., Onawa, Ia., $121,738; J. H. Wiese, Omaha, Neb., $122,870; Wm. O'Neill & Son, Faribault, Minn., $124,958. W. E. Barz, co. clk.

★**Mitchell, S. D.**—Following are 3 bids received for erecting Methodist State Hospital: H. F. Stolte, Redfield, S. D., $50,824 (awarded contract); Lawrence Constr. Co., Minneapolis, Minn., $51,275; Collins Bros., Sioux Falls, S. D., $54,000. John C. Chapman, archt., Sioux Falls.

★**Veblen, S. D.**—Contract awarded by Bd. Educ. to F. A. Hancock, Morris, Minn., for erecting grade and high school building; cost $50,000. G. R. Horton, archt., Jamestown, N. D.

★**Jonesboro, Ark.**—Contract awarded by Bd. Educ. (bids opened Jan. 16) for erecting high school building to H. A. Lesmeister, Jonesboro, at $39,000. A. E. Lockhart, secy.

Richfield, Utah.—Following are 4 lowest bids opened by Jas. A. Wetmore, superv. archt., Treasury Dept., Washington, D. C., Jan. 22, for erecting U. S. postoffice complete, (a) limestone, (b) sandstone: W. D. Lovell, Minneapolis, Minn., (a) $50,900, (b) $50,900; Geo. A. Whitmeyer & Sons, Ogden, Utah, (a) $50,905, (b) $51,112; J. M. Dougan Co., San Francisco, Cal., (a) $50,270, (b) $49,990; Geo. A. Shaul, Seneca, Kan., (a) $54,640, (b) $54,323.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK

Cleveland, O.—Construction of lake to cover over 5200 acres at junction of Summit, Cuyahoga, Portage and Geauga counties contemplated, including construction of dam feeders, levees and other structures necessary to construct reservoir; cost not to exceed $450,000; address State Bd. Pub. Wks.

Knox, Ind.—Ditch bonds for $10,701 will be sold Feb. 10 by John L. Kessler, treas. Stark Co.

LaFayette Ind.—Judge J. B. Berry, Fowler, Ind., rendered decision in favor of constructing Sterrett Ditch in Wea Township to drain about 3900 acres of land; estimated cost $29,700; address Mr. Sterrett.

Lewistown, Ill.—Plans are being prepared by C. E. Bradbury, drainage engr., Canton, for development of East Liverpool Drainage and Levee Dist., to consist of reclaiming 2755 acres of swamp and lake lands, removal of Buckhart, Beckstead, Johnson and Candyke lakes; cost $190,000; levee to have 17-ft. embankment with 85-ft. base tapering to 8 ft. at top; cost $102,000; pumping station, cost $36,000; internal combustion oil engines, one 225-hp. and one 125-hp. to discharge 23,500 gal. of water in a maximum of 23 ft. into the Illinois River; about 800,000 yd. of earth to be used in embankment.

Quincy, Ill.—Surveys are being made for the Steffenville Drainage Dist., including Lewis, Shelby and Knox Counties; bonds for $70,000 recently sold for this work. Edmund Perkins Eng. Co., 38 So. Dearborn St., Chicago.

Burlington, Wis.—Surveys and plans are completed for drainage in Eagle Creek Drainage Dist., to consist of constructing main ditch and four laterals, on two plans; Plan 1 involves 16,998 lin. ft. 12 to 20 in. tile, 171,766 cu. yd. excav., cost $29,060; Plan 2, 32,198 lin. ft. tile 12 to 30 in., 112,626 cu. yd. excav., cost $37,520. P. J. Hurtegen, engr., Burlington.

Mason City, Ia.—Resolutions passed by Co. Bd. for establishing Drainage Ditch No. 40; cost $19,414. Geo. E. Frost, co. aud.

Buffalo, Minn.—Drainage bonds for $30,000 for constructing Co. Ditches Nos. 26, 28, 30 and 31 will be sold Feb. 6 by John A. Berg, co. aud.

Crookston, Minn.—No bids opened Jan. 25 by H. J. Welte, co. aud., for repairing County Ditch No. 46.

Fairmont, Minn.—Ditch bonds for $88,000 have been sold.

Fargo, N. D.—County drainage bonds for $83,212 have been sold.

Chillicothe, Mo.—Surveys are being made for drainage of Medicine Creek Drainage Dist. Clark E. Jacoby Eng. Co., S. W. Shukert Bldg., engrs., Kansas City, Mo. Paul D. Kitt, secy. and treas. of dist., Chillicothe.

Keytesville, Mo.—Surveys are about to be made for drainage of Yellow Creek Drainage Dist. Elliott-Harman Eng. Co., Peoria, Ill., engrs. Glen H. Whitman, secy.-treas. of dist., Whitman, Mo.

St. Louis, Mo.—Plans of Wesley W. Horner, engr. street dept., have been approved by Bd. Pub. Serv. for elimination of River des Peres by underground passage north of southern boundary of Forest Park, also straightening channel between concrete bank south of park, at cost of about $6,650,000; bond issued required for necessary funds for this improvement.

Warrensburg, Mo.—Drainage work involving constructing channel 6½ miles long contemplated; bonds for $75,000 for this work to be voted Feb. 9 by county.

Little Rock, Ark.—Representative Willis of Crittenden Co. authorized the St. Francis Levee Dist. to issue $1,500,000 bonds for levees.

Bay City, Tex.—Gulf Coast Irrigation Co., recently organized, has purchased Gravity Irrigation & Power Co. and contemplates improving and extending system at cost of $50,000. W. H. Ramsey, Bay City, interested.

Lawton, Okla.—Lawton Irrigation Dist. voted in favor of irrigating 2500 acres lying south of city dam; work will probably be started in spring; if land proves subject to irrigation, government has proposed to take over city dam, raise it to height of 90 ft. and irrigate 10,000 acres.

Gold Hill, Ore.—Gold Hill Irrigation Dist. (C. W. McDonald, secy.-treas.) created for irrigating about 1300 acres on south side of Rogue R., at $36 per acre; ditch to be 16 miles long.

Allensworth, Cal.—O. O. Overr, W. O. Wells and others, comprising committee appointed to arrange for organization of irrigation dist., sinking of wells to develop water sufficient to irrigate about 7000 acres, contemplated.

Fallbrook, Cal.—See "Reinforced Concrete."

Calexico, Cal.—Imperial Mutual Co., Nos. 6, 8 and 12, contemplates digging canal from Cudahy Creek to Cerro Prieto Canal as part of Imperial Irrigation Dist.'s irrigation system; cost $85,000. C. K. Clarke, ch. engr. dist.

Lodi, Cal.—Contract will soon be let on irrigation project designed to water about 100,000 acres of land in southern part of Sacramento County and northern part of San Joaquin County, near Lodi and Clements, between Dry Creek on the north and Mokelumne River on the south, 150 ft. above sea level, construction of dam large enough to hold back 200,000 acre ft. of water, contemplated. Chas. W. Landis, engr.

Riverside, Cal.—West Riverside Canal Co. granted permission by State Railroad Comn. to issue $60,000 bonds for improving canal system.

San Dimas, Cal.—San Dimas Irrigation Co. (Wm. Bowering, mgr.) contemplates constructing 5,000,000-gal. reservoir; cost $12,000.

Terra Bella, Cal.—Irvin H. Althouse, formerly city engr. Porterville, has been appointed resident engr. on work of constructing irrigation system for the Terra Bella Irrigation Dist. S. E. Kieffer, ch. engr., 57 Post St., San Francisco.

Buckeye, Ariz.—Buckeye Irrigation Dist. (Geo. P. Brown, pres.) voted $55,000 bonds for constructing six drainage ditches, enlarging and lowering main canal, constructing timber and riprap sand gates and lateral ditches.

BIDS DESIRED

Albany, N. Y.—Until Feb. 28 by W. W. Wotherspoon, supt. pub. wks., Capitol Bldg., for Contracts Nos. 84, 122A, 131A, for improving New York State canals advertised in this issue.

Wilmington, Del.—Until Feb. 19, by U. S. Engr., Old Federal Bldg., for dredging Alloway Creek, N. J.

Palatka, Fla.—Reported desired until Feb. 6, by Comrs. Bostwick Drain Dist. (W. R. Revels, chmn.) for constructing drainage system; work includes 137,000 cu. yd. excavation; plans may be obtained from R. J. Hancock, clk. bd.

Monticello, Ind.—Reported desired until Feb. 10, by Paul Ward, drain. comr., for constructing Mary E. Vinyard and Hickman ditches in White Co., also by Geo. A. Thomas, drain. comr., for constructing Downey ditch in White Co.

Winamac, Ind.—Until Feb. 10 by C. E. Paul, constr. comr., for constructing 3 ditches; work includes about 15,856 ft. of from 6 to 15-in. vitr. sewer tile, together with catch basins, etc.

Garden Prairie, Ill.—Until Feb. 20, by Comrs., Coon Creek Drainage Dist., of Boone and McHenry Cos. (John F. De Yarmond, secy.) for constructing 16 mi. tile drains from 6 to 27 in. diam., 3 separate contr. (a) furnishing all tile and materials, (b) constructing system, (c) furnishing all material and installing it.

Primghar, Ia.—Until Feb. 13 by Bd. Superv. O'Brien Co. for tile and construction work on drainage Dist. No. 4; from 8 to 30-in. tile; cost about $22,000. J. C. Kerrigan, co. engr., Primghar.

Sibley, Ia.—Until Feb. 8 by Co. Aud. Osceola Co. for constructing Joint Drainage District No. 3, of Dickinson and Osceola counties, work to include 126,746 cu. yd. suitable for dragline or floating dredge and 66,327 cu. yd. for dragline, about 286,950 ft. tile from 6 to 42 in., 19 bulkheads and 200 inlets; information may be obtained from L. A. Wilson, engr., Sibley.

Glencoe, Minn.—Reported desired until Feb. 10 by F. D. Stocking, co. aud., for constructing Public Ditches Nos. 30 and 31; work includes about 76,810 cu. yd. excav., 5896 ft. tile, retaining wall, etc.

Tacoma, Wash.—Until Feb. 10, by Pierce Co. Comrs. (Thos. N. Norris, aud.) for constructing hydraulic fill on portions of S. 11th St., distance of 5500 ft. Plans may be obtained from D. H. White, co. engr., cost about $85,000.

PRICES AND LETTINGS

★*Indicates award of contract.*

New York, N. Y.—Only bid opened Jan. 24 by R. A. C. Smith, comr. of docks, Pier A, Battery Pl., City, for Contr. No. 1556, dredging in Manhattan, Brooklyn, Queens, Bronx and Richmond Boroughs was that of P. Sanford Ross, Inc., 277 Washington St., Jersey City, N. J., for Class 1, at 28½ cts. for 80,000 cu. yd. in North River; no bid received on Class 2, dredging about 60,000 cu. yd. East and Harlem Rivers.

Philadelphia, Pa.—Following bid opened Jan. 22, by Bureau Yards and Docks, Navy Dept., Washington, D. C., for dredging at the navy yard, Philadelphia: American Dredging Co., 308 Chestnut St., Philadelphia, 25.9 cts. per cu. yd.

★**Wilmington, Del.**—Contract awarded by U. S. Engrs. for excav. inland waterways between Rehoboth Bay and Delaware Bay: To Rickards Dredging Co., Real Estate Trust Bldg., Philadelphia, Pa., at $49,940.

★**Richland, La.**—Contract awarded by Fifth Dist. Levee Bd. to Roach & Stantsell, Memphis, Tenn., at 18.70 cts. per cu. yd. for Cottonwood Levee in East Carroll Parish, dike to consist of about 250,000 cu. yd.

★**Auburn, Ind.**—Following contract awarded by Bd. Comrs. De Kalb Co. (bids opened Jan. 27) for improving Riccius Ditch: F. R. Williams, St. Johns, $867; Daniel Wagner Ditch, Noah Williams, St. Johns, $7,200; Willis Daniels, Auburn, $23,400. Clark F. Scholes, co. surv.

★**Marengo, Ill.**—Contract awarded R. H. McWilliams, 332 S. Michigan Ave., Chicago, Ill., for 6 miles of open ditches 30 to 60 ft. wide and removing 200,000 cu. yds. of earth at $27,000. In addition 16 miles of tiling varying from 6 to 27 in. in diam. will be laid for laterals.

★**Emmetsburg, Ia.**—Drainage contract awarded by joint counties (Kossuth Co., E. H. Beardsley, aud.) (Palo Alto Co., W. F. Eagon, aud.) for open ditch, to Thomas & Sweet, Bancroft, at 8.75 cts. per cu. yd.; Welps Cement Product Co., Bancroft, tile and labor, at $182,000; for ditch No. 1; other bidders on tile and labor were Graettinger Tile Wks., Graettinger, $197,324; Cement Product Co., Spencer, $190,358; Langely & Helberg, Algona, $218,198.

★**Spirit Lake, Ia.**—Contract awarded by Angus MacDonald, co. aud. (bids opened Jan. 25), to Lemreaux Bros. Co., Omaha, Neb., at 24.5 cts. for 44,470 cu. yd. excav. for 11.75 miles county roads at 24.5 cts. per cu. yd. and for 240 ft. cor. metal pipe, Class B, "Keystone Mark," 1917 Spec. Iowa Highway Cont., to Klauer Mfg. Co. at $1.33, 2 per cent f.o.b. any railroad in county; all other bids rejected.

★**Wakefield, Neb.**—Following are four lowest bids opened Jan. 23 by Wakefield Drainage Dist. for constructing Main Ditch to consist of 476,000 cu. yd., 11 miles long: Pollard & Campbell, Omaha, 5.66 cts. (awarded contract); H. B. Whitney, Sioux City, Ia., 6.63 cts.; Sternberg Bros., Nat'l Bank of Com. Bldg., St. Louis, Mo., 6.66 cts.; O. P. Herrick, Des Moines, Ia, 6.68 cts.; prices given per cu. yd. Towl Eng. Co., 1122 1st Nat'l Bank Bldg., Omaha, engrs.

★**England, Ark.**—Contract awarded by Lonoke County Drainage Dist. No. 5 to Oscar Kotichzy, England, for constructing 30 miles drainage canal; 90,000 cu. yd. excav. Dickinson & Watkins, engrs., Little Rock.

★**Wabbaseka, Ark.**—Contract awarded by Jefferson County Drainage Dist. No. 7 to Carter Bros., Pine Bluff, for constructing drainage system to reclaim 8000 acres between Wabbaseka and Humphreys; bonds for $125,000 issued.

★**Port Arthur, Tex.**—Contract awarded by Comrs. Court to Spence-Howe Constr. Co. at $18,800 for constructing drainage pumping station. Address Co. Judge.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK

Canandaigua, N. Y.—Bill has been presented to both Senate and Assembly at Albany for improving state pier at foot of lake here; cost $20,000. Wm. V. Brooks, city clk.

Raleigh, W. Va.—Tract of several thousand acres along New River has been purchased recently by A. D. Preston of Beckley and C. L. Miller of Hinton; construction of hydroelectric plant contemplated to supply electricity to coal field communities in county.

Mortimer, N. C.—C. M. McCorkle, Newton, N. C., purchased site on Wilson Creek and contemplates constructing hydroelectric plant to develop about 2000 hp.

Winnsboro, S. C.—Surveys are being made along the Catawba River, from Chester Co. line to border of Richland for construction of power dam at Gettys mill in Longtown section. Address Southern Power Co., Charlotte, N. C.

Lake Worth, Fla.—City contemplates constructing 10 blocks of seawall; $25,000 bonds have been sold. Jas. M. Love, mayor. G. Sherman Childs, consult. engr.

Tuscaloosa, Ala.—Election has been called by City Comn. for March 5 to vote on issuing $50,000 bonds for constructing wharf and equipping wharves. Address Clk. City Comn.

Tallulah, La.—Contract will soon be let by Bd. Comrs., 5th Louisiana Levee Dist., (O. W. Campbell, secy.) for constructing levee in East Carroll Parish, Mississippi River, known as Cottonwood Levee, containing approximately 250,000 cu. yd.

Corydon, Ind.—Middle West Utilities Co., which controls United Gas & Electric Co., New Albany, it is reported, contemplates constructing hydroelectric plant on Blue River 8 miles west of here, constructing dam 100 ft. high for supplying power for Jeffersonville, New Albany and Louisville, Ky.

Ashland, Wis.—P. & A. Coal Co. contemplates extending coal docks at cost of about $250,000.

Galveston, Tex.—Plans have been approved by the Morgan Line, Pier 22, for constructing series of five steel and concrete piers by said line at Galveston, according to report of C. W. Jungen, New York; cost about $4,000,000.

Fallhook, Cal.—See "Reinforced Concrete."

Lodi, Cal.—See "Excavation, Drainage and Dredging."

Clifton, Ariz.—See "Structural Steel."

BIDS DESIRED.

Seattle, Wash.—Until Feb. 16, by Bd. Pub. Wks. (C. B. Bagley, secy.) for constructing foundation work for 10th Ave. Northeast Bridge over Lake Washington Canal; work will include 800 piles to be driven to a depth of 35 ft., cost about $200,000; F. A. Rapp, bridge engr.

PRICES AND LETTINGS

★*Indicates award of contract.*

Philadelphia, Pa.—Following bids opened Jan. 29 by Bureau Yards and Docks, Navy Dept. (F. R. Harris, ch.), Washington, D. C., for constructing drydock at League Island Navy Yard: Maryland Dredging & Constr. Co., 1515 Fidelity Bldg., Baltimore, Md., about $2,500,000; Foundation Co., Woolworth Bldg., New York City, $2,500,626; five other bidders offered to construct dock on basis of piece construction were Porters Bros. Co., Wilkes-Barre, Pa.; H. P. Converse Co., 88 Broad St., Boston, Mass.; Geo. Leary Constr. Co., New York City; Maryland Dredging & Constr. Co., Baltimore, Md.; and Smith, Hauser & MacIsaac Co., 18 E. 41st St., New York City.

★**New Orleans, La.**—Contract awarded (bids opened Jan. 24) by Bd. Comrs. (B. B. Hans, pres.) to John Riess, Hibernia Bank Bldg., New Orleans, at $92,644, for constructing reinforced concrete causeway with wood block roadway and creosoted wharf at Dumaine St.

New Orleans, La.—Contract awarded by Maj. W. G. Caples, Corps Engrs., U. S. A., 4th Dist., Mississippi River Comn., to Lester F. Alexander, Audubon Bldg., New Orleans, at $408,100 for constructing bulkhead at South West Pass Mississippi River.

★**Yuma, Ariz.**—See "Reinforced Concrete."

TUNNELS AND SUBWAYS

PROPOSED WORK

Baltimore, Md.—Pennsylvania RR. Co. (Alex. C. Shand, ch. engr., Philadelphia) has submitted plans to city for improving its terminal facilities, calling for constructing twin tunnels paralleling present tunnel under city; cost about $15,000,000.

Clinton, Ia.—Chicago Northwestern Ry. Co. (W. H. Finley, ch. engr., Chicago) contemplates constructing passenger and freight depot, also two subways; cost $600,000.

Denver, Col.—Cripple Creek Draining Tunnel Co. (A. E. Carlton, pres.) contemplates extending Roosevelt Tunnel 1200 ft. further during 1917; tnnnel is now 5 miles long.

Bakersfield, Cal.—Reported Southern Pacific RR. Co. (W. Hood, ch. engr., San Francisco) intends to widen its 14 tunnels between here and Tehachapi.

Los Angeles, Cal.—City contemplates constructing 50-ft. tunnel, two car tracks, roadway and walks, cost $600,000. Bids some time in February.

MISCELLANEOUS

PROPOSED WORK

Bonds—Boston, Mass.—State (Charles L. Burrill, treas. and receiver-general) will sell Feb. 7 bonds amounting to $4,024,100, including $284,000 Metropolitan Park loans, $335,000 sewerage loans, $150,000 water loan, $1,395,000 state highway loans, $765,000 State House construction loan.

Parks and Playground—Lowell, Mass.—City contemplates constructing park and playground; cost $20,000. Stephen Kearney, city engr.

Transmission Line—Mansfield, Mass.—Union Light & Power Co., Franklin, contemplates erecting a 13,000-volt transmission line from Mansfield to North Attleboro.

Steel Towers—Sayville, L. I., N. Y.—See "Structural Steel."

Park and Playground—Newark, N. J.—Essex County Park Comn. has asked the Bd. Freeholders to issue $5,000,000 bonds for acquiring park and playground in Vailsburg section. Alonzo Church, 810 Broad St., Newark, chmn. of the comn.

Park—Tenafly, N. J.—Palisade Interstate Park Comn., 61 B'way, New York City, has purchased the Danforth tract of 180 acres at Tenafly running to edge of Palisades at cost of $90,000, to be converted into a park.

Slip—Philadelphia, Pa.—Plans and specifications are being prepared by the Navy Dept. for constructing slip at Mare Island.

Incinerator—New Orleans, La.—City contemplates constructing incinerator similar to one recently constructed in Algiers, which consumes 48 tons of refuse daily and cost $35,000.

Riprap Stone—Memphis, Tenn.—All bids opened Jan. 15 by Mississippi River Comn., U. S. Engrs. Office, for furnishing about 25,000 tons riprap stone rejected.

Transmission Line—Glasgow, Ky.—Kentucky Utilities Co., Louisville (Albert Boyd, supt.) which recently took over property of Glasgow Electric Light & Ice Co., contemplates erecting electric transmission line to Cave City and Horse Cave early in spring.

Transmission Line—Logan, W. Va.—Logan County Light & Power Co. (M. L. Maxwell, mgr., Logan) contemplates improvements to plant, also erection of 25 miles 44,000-volt transmission lines. Francis R. Weller, Hibbs Bldg., Washington, D. C., consulting engr.

Transmission Line—Savanna, Ill.—Peoples Gas & Electric Co. (T. P. Bowen, mgr.) contemplates constructing electric transmission line to Mount Carroll.

Transmission Line—Marengo, Ia.—Bd. RR. Comrs. has granted the Iowa Electric Co., Marengo, franchise to erect and operate an electrical transmission line in Washington, Johnson and Muscatine counties for electrical purposes.

Transmission Line—Fort Smith, Ark.—Fort Smith Light & Traction Co. contemplates extending its electric transmission line.

Park Improvements—Seattle, Wash.—Bd. Park Comrs. (Roland Cotterill, secy.) adopted budget for improvements to consist of dredging, grading and beautifying Green Lake Park; expenditure $32,000.

Amusement Resort—Los Angeles, Cal.—C. F. Wickland, Venice, Cal.; Ernest Pickering, Los Angeles, and others have secured lease from City Harbor Comrs. on 2000 ft. water front on Terminal Isle, San Pedro, to construct amusement resort modeled after Luna Park; cost $500,000.

BIDS DESIRED.

Steel Pipe—Schenectady, N. Y.—Until Feb. 14 by Bd. Contract and Supply (F. J. Bates, secy.) for furnishing labor and equipment and welding circumferential joints of about 10,200 ft. of 36-in. Lock-Bar steel pipe; advertised in this issue.

Stack—Asbury Park, N. J.—Until Feb. 13, by Bd. Comrs. (M. L. Bamman, dir. parks & pub. prop.) for erecting new radial brick stack or an iron self supporting stack with necessary foundation, smoke connection, etc.; bond for 50 per cent to accompany bid.

Crushed Stones—Flemington, N. J.—Until Feb. 15, by Bd. Freeholders (J. J. Johnson, dir.), for furnishing crushed stones for the ensuing year; advertised in this issue.

Crushed Stones—Millburn, N. J.—Until Feb. 13, by Twp. Committee (William Byrd, chmn.), for supplying crushed stones on public roads of following sizes: 2½ in., 1½ in., ¾ in. screened screenings, mixed screenings and dust, for year 1917.

Crane—Philadelphia, Pa.—See "Industrial Plants and Warehouses."

Park Improvement—Philadelphia, Pa.—Until Feb. 7 by Dept. Pub. Wks., for improving by constructing concrete curbs, copings, posts and balustrades and concrete pavements in 24th St., Bartram and William Lanier Parks.

Cranes—Washington, D. C.—Until Feb. 19, by Bureau Yards & Docks (F. R. Harris, ch.), Navy Dept., for furnishing and installing one 40-ton and four 10-ton bridge cranes at navy yards, Norfolk, Va., and Philadelphia, Pa.

Portland Cement—Lansing, Mich.—Reported desired until Feb. 14 by John McLellan, city clk., for supplying city with Portland cement for 1917.

Natatorium—Milwaukee, Wis.—Until Feb. 12 by J. C. Pinney, supt. pub. bldgs., for erecting natatorium at Hayes and 5th Ave.; cost about $55,000.

Road Oil—New Ulm, Minn.—Reported desired until Feb. 6 for furnishing 100,000 gal. asphalt road oil, f.o.b. M. & St. Louis Ry. tracks; bids received on standard Nos. 4 and 5; check for $50 to accompany bid. Wm. Becker, city clk.

Road Oil—Fresno, Cal.—Until Feb. 15, by Bd. Supervs. (D. M. Barnwell, clk), for furnishing not less than 80,000 nor more than 100,000 bbls. road oil containing not less than 65 per cent, 70 per cent and 75 per cent asphalt.

Park—Santa Rosa, Cal.—Until Feb. 12 by Chamber Commerce for constructing Burbank creations' park on 5 acres of land.

Bucket and Screw Conveyors—Summerland, Cal.—Until Feb. 13, by J. W. Turrentine, Arlington Hotel, Santa Barbara, Cal., for furnishing bucket, flight and screw conveyors to U. S. Dept. Agriculture here; advertised in this issue.

Bucket Dredge—Vallejo, Cal.—Until Feb. 26, by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Washington, D. C., for 1-ton bucket dredge for navy yard at Mare Island.

Asphalt—St. John, N. B.—Reported desired until Feb. 26, for furnishing 400 tons asphalt; C. F. Fisher, comr. pub. works.

PRICES AND LETTINGS

★*Indicates award of contract.*

Limestone Dust, Cement, Etc.—New York, N. Y.—Contracts awarded (bids opened Jan. 22) by Marcus M. Marks, pres., Manhattan Boro., Municipal Bldg.: To Upper Hudson Stone Co., 26 Cortlandt St., New York City, at $19,879, for 4500 tons of limestone dust, and at $14,375 for 11,500 cu. yd. of stone; to Standard Oil Co. of New York, 26 Broadway, New York City, at $43,800 for 600,000 gal. of refined asphalt; Warren-Quinlan Asphalt Co., 79 Wall St., New York City, at $10,240, for 500 tons of refined asphalt in packages; Wm. J. Allen, 155B Ave. A, at $9,450, for 20,000 bags of Portland cement.

★**Garbage Disposal—Newark, N. J.**—Contract awarded by Common Council to Hugh F. Gilligan, 86 Van Ness Pl., Waverly (Newark, P. O.) at $175,800 for collection and disposal of garbage for year 1917.

★**Cement—Fond du Lac, Wis.**—Contract awarded P. F. Boulay & Bro., Fond du Lac, at $2.19 per bbl. f.o.b. cars and $2.59 per bbl. delivered on road, for 4000 bbl. cement for constructing Fond du Lac-Taycheedah Rd. Wm. J. Ryan, secy. county state road and bridge com.

★**Rip Rap—Kansas City, Kan.**—Contract awarded by T. E. Myer, pres. Kaw Valley Drainage Dist., to Enright & Bousman, 1960 N. 5th Ave., for 15,700 yd. of rip-rap revetment at $1.07 per sq. yd.

Fill—Tacoma, Wash.—Following are lowest bids received for constructing fill instead of trestle at 11th St.: Tacoma Dredging Co., Tacoma, for fill, $85,764; for trestle extension, D. W. Rutherford, Tacoma, $20,740; Tacoma Dredging Co. also bid on fill on Lincoln Ave., at $11,000, which was rejected.

Cranes, Etc.—Summerland, Cal.—Following are bids opened Jan. 19, by Bd. of Awards, Dept. Agriculture, Washington, D. C., for two power-operated cranes and grab buckets for use in handling kelp at Summerland: Link Belt Eng. Co., Huntington Park Ave., Philadelphia, crane No. 1, $10,598, No. 2, $13,394; Industrial Wks., Bay City, Mich., crane No. 1, without bucket, $12,125; crane No. 2, without bucket, $14,645; extra bucket, 2 cu. yd. $1,250; multiple power bucket $1,100; power wheel type bucket $945.

Proposals

For Proposals Advertised See Pages 65a, 66b, 66c, 66d

WATER WORKS AND SEWERAGE SYSTEMS

Bids Close.		See Eng. Record.
Feb. 5.	St. Paul, Minn. Adv. Dec. 23.	Dec. 23
Feb. 5.	Winnipeg, Man. Adv. Jan. 20, 27.	Jan. 20
Feb. 5.	Springfield, Ill.	Jan. 20
Feb. 5.	Alliance, O.	Jan. 27
Feb. 5.	East Grand Rapids, Mich.	Jan. 27
Feb. 6.	Flint, Mich. Adv. Jan. 13, 20.	Jan. 13
Feb. 6.	New Brunswick, N. J.	Jan. 27
Feb. 6.	Long Island City, L. I., N. Y.	Feb. 3
Feb. 6.	Dows, Ia.	Feb. 3
Feb. 7.	Savannah, Ga.	Jan. 20
Feb. 7.	Coeburn, Va.	Jan. 20
Feb. 7.	Florence, Neb.	Jan. 27
Feb. 7.	Brooklyn, N. Y.	Feb. 3
Feb. 7.	New York, N. Y.	Feb. 3
Feb. 7.	Castlewood, S. D.	Feb. 3
Feb. 8.	Newark, N. J. Adv. Jan. 27.	Jan. 27
Feb. 11.	Panama	Feb. 3
Feb. 12.	Rocky River, O.	Jan. 27
Feb. 12.	East View (Cleveland P. O.), O.	Jan. 27
Feb. 13.	Millburn, N. J.	Feb. 3
Feb. 14.	Akron, O. Adv. Jan. 27.	Jan. 27
Feb. 14.	Wyoming, O.	Jan. 27
Feb. 14.	Ridgefield, N. J. Adv. Jan. 27, Feb. 3.	Jan. 27
Feb. 14.	LaFayette, Ind.	Feb. 3
Feb. 15.	Coshocton, O.	Feb. 3
Feb. 15.	Detroit Mich	Feb. 3
Feb. 15.	Casa Grande, Ariz.	Feb. 3
Feb. 19.	Humboldt, Kan.	Jan. 27
Feb. 20.	Ft. H. G. Wright, N. Y. Adv. Jan. 20 to Feb. 3.	Jan. 20
Feb. 20.	Oswego, N. Y. Adv. Jan. 27, Feb. 3.	Jan. 27
Feb. 21.	Emmett, Idaho	Feb. 3
Feb. 21.	Newark, N. Y. Adv. Feb. 3.	Feb. 3
Mar. 1.	Big Sandy, Mont.	Feb. 3
Mar. 1.	Springfield, Ill.	Jan. 13
Mar. 6.	Chilton, Wis.	Dec. 2
Mar. 7.	E. View (Cleveland P. O.), Ohio	Feb. 3
Mar. 10.	Ravenna, O.	Jan. 27
Apr. 1.	Gibson, Ill.	Dec. 23
Apr. 1.	Mt. Vernon, O.	Dec. 23
Apr. 1.	Hillsboro, Ill.	Jan. 27

STRUCTURAL STEEL WORK

Feb. 6.	Philadelphia, Pa. Adv. Jan. 13, 20.	Jan. 13
Feb. 6.	Wayne, Neb.	Jan. 13
Feb. 6.	Covington, Ga.	Jan. 20
Feb. 6.	Lusk, Wyo.	Jan. 27
Feb. 6.	Anamosa, Ia.	Jan. 27
Feb. 6.	Pensacola, Fla.	Feb. 3
Feb. 7.	Philadelphia, Pa. Adv. Jan. 13, 20.	Jan. 13
Feb. 7.	Mount Holly, N. J.	Jan. 27
Feb. 7.	Grafton, N. D.	Feb. 3
Feb. 7.	Washington, Ind.	Feb. 3
Feb. 8.	Stockton, Cal.	Jan. 20
Feb. 9.	Balsam Lake, Wis.	Jan. 27
Feb. 9.	Fort Dodge, Ia.	Jan. 27
Feb. 9.	Pennsgrove, N. J.	Jan. 27
Feb. 12.	Cristobal, C. Z. Adv. Jan. 20.	Jan. 20
Feb. 13.	East Dubuque, Ill.	Jan. 20
Feb. 20.	Vinton, Ia.	Jan. 27
Feb. 26.	Akron, O.	Feb. 3
Feb. 28.	Brandenburg, Ky.	Jan. 27
Mar. 5.	Brookville, Ind.	Feb. 3
Mar. 7.	Dillon, Mont.	Jan. 27

REINFORCED CONCRETE

Feb. 6.	Lewisburg, W. Va. Adv. Jan. 13 to Feb. 3.	Jan. 13
Feb. 8.	Ft. Wayne, Ind.	Jan. 27
Feb. 12.	Wayne, Neb.	Jan. 13
Feb. 14.	Sarita, Tex.	Feb. 3
Feb. 14.	Ann Arbor, Mich.	Feb. 3
Feb. 15.	Orangeburg, S. C.	Feb. 3
Feb. 16.	Columbus, O. Adv. Jan. 27, Feb. 3.	Jan. 27
Feb. 19.	Yonkers, N. Y.	Jan. 27

ROADS AND PAVING

Feb. 6.	Neshanic, N. J.	Dec. 30
Feb. 6.	Mt. Olivet, Ky.	Jan. 13
Feb. 6.	Hillsboro, N. J.	Jan. 13
Feb. 6.	Inez, Ky.	Jan. 20
Feb. 6.	Grayson, Ky.	Jan. 20
Feb. 6.	Sheridan, Wyo.	Jan. 20
Feb. 6.	Indiana	Jan. 20
Feb. 6.	Jackson, Miss.	Jan. 27
Feb. 6.	Bakersfield, Cal.	Jan. 27
Feb. 6.	Leavenworth, Kan. Adv. Jan. 27.	Jan. 27
Feb. 6.	Perry, Fla.	Jan. 27
Feb. 6.	Palatka, Fla.	Jan. 27
Feb. 6.	Friday Harbor, Wash.	Jan. 27
Feb. 6.	Berwyn, Ill.	Jan. 27
Feb. 6.	West Orange, N. J.	Feb. 3
Feb. 6.	Philadelphia, Pa.	Feb. 3
Feb. 6.	Traer, Ia.	Feb. 3
Feb. 7.	Burlington, N. J. Adv. Jan. 27.	Jan. 27
Feb. 7.	Indiana	Jan. 27
Feb. 7.	Bucyrus, O.	Feb. 3
Feb. 7.	Baltimore, Md.	Feb. 3
Feb. 7.	Brooklyn, N. Y.	Feb. 3
Feb. 8.	Brook Haven, N. Y. Adv. Jan. 27.	Jan. 27
Feb. 8.	Columbia, Ky.	Jan. 20
Feb. 9.	Lapeer, Mich.	Jan. 27
Feb. 10.	Astoria, Ore.	Feb. 3
Feb. 12.	Irvine, Ky.	Jan. 6
Feb. 12.	Georgetown, Ky.	Jan. 20
Feb. 12.	Camden, N. J.	Jan. 20
Feb. 13.	Jamestown, Ky.	Jan. 20
Feb. 13.	Albany, Ky.	Jan. 20
Feb. 13.	Baltimore, Md. Adv. Feb. 3.	Feb. 3
Feb. 13.	Everett, Wash.	Feb. 3
Feb. 14.	Charleston, W. Va.	Jan. 20
Feb. 14.	Baltimore, Md. Adv. Jan. 27, Feb. 3.	Jan. 27
Feb. 15.	Waupum, Wis.	Jan. 27
Feb. 15.	Hampton, Ia.	Jan. 27
Feb. 15.	New Castle, Pa.	Jan. 27
Feb. 15.	Indiana	Feb. 3
Feb. 15.	Olean, N. Y. Adv. Feb. 3.	Feb. 3
Feb. 16.	Indiana	Feb. 3
Feb. 16.	Flemington, N. J.	Jan. 27
Feb. 17.	San Bernardino, Cal.	Feb. 3
Feb. 19.	Stockton, Cal.	Jan. 20
Feb. 19.	Albany, N. Y. Adv. Feb. 3.	Feb. 3
Feb. 19.	Fayetteville, W. Va.	Feb. 3
Feb. 19.	Indiana	Feb. 3
Feb. 20.	Albany, N. Y. Adv. Feb. 3.	Feb. 3
Feb. 21.	Parkersburg, W. Va.	Jan. 27
Feb. 22.	Grundy, Va.	Jan. 20
Feb. 23.	Olean, N. Y. Adv. Feb. 3.	Feb. 3
Feb. 26.	Seattle, Wash.	Jan. 27
Feb. 27.	Seattle, Wash.	Jan. 27
Feb. 28.	Tompkinsville, Ky.	Jan. 27
Feb. 28.	Whitley City, Kan.	Jan. 27
Feb. 28.	Jacksonville, Fla.	Feb. 3
Mar. 1.	Manchester, Conn.	Jan. 20
Mar. 2.	Tompkinsville, Ky.	Jan. 27
Mar. 15.	Cadiz, O.	Jan. 27
Mar. 18.	Kent, O.	Dec. 30
Mar. 30	Canton, Ill.	Jan. 20
Mar. 30.	Naperville, Ill.	Jan. 27
Apr. 1.	Virginia, Ill.	Jan. 13
Apr. 3.	Madisonville, Wis.	Jan. 27
———	Hoopton, Ill. Adv. Jan. 27.	Jan. 27

RAILWAYS

Feb. 7.	Brooklyn, N. Y.	Jan. 27

INDUSTRIAL PLANTS AND WAREHOUSES

Feb. 15.	Miami, Fla. Adv. Jan. 27, Feb. 3.	Jan. 27
Feb. 16.	Seattle, Wash.	Jan. 13
Feb. 26.	Vallejo, Cal.	Jan. 27
Mar. 1.	Lenox, Ky.	Feb. 3

BUILDINGS
Public and Private

Feb. 5.	New York, N. Y.	Feb. 3
Feb. 6.	Athens, Ga.	Jan. 13
Feb. 6.	Crete, Neb.	Jan. 27
Feb. 7.	Sioux Falls, S. D.	Jan. 20
Feb. 7.	Macon, Ga.	Jan. 27
Feb. 7.	New Lisbon, N. J.	Jan. 27
Feb. 7.	New York, N. Y. Adv. Feb. 3.	Feb. 3
Feb. 10.	Tyndall, S. D.	Jan. 20
Feb. 10.	Gallup, N. M.	Jan. 27
Feb. 10.	St. Edward, Neb.	Feb. 3
Feb. 10.	Marquette, Mich.	Feb. 3
Feb. 12.	Moultrie, Ga.	Jan. 6
Feb. 12.	Winnipeg, Man.	Jan. 13
Feb. 12.	Little Rock, Ark.	Jan. 20
Feb. 12.	Galesburg, Ia.	Feb. 3
Feb. 13.	Industry, N. Y. Adv. Jan. 13.	Jan. 13
Feb. 13.	Detroit, Mich.	Jan. 13
Feb. 13.	West Minneapolis (P. O. Hopkins), O.	Jan. 20
Feb. 14.	Ripley, W. Va.	Jan. 13
Feb. 14.	Morgantown, W. Va. Adv. Jan. 6.	Jan. 6
Feb. 14.	Thiells, N. Y. Adv. Jan. 27, Feb. 3.	Jan. 27
Feb. 14.	Port Henry, N. Y.	Jan. 27
Feb. 15.	Escanaba, Mich.	Dec. 30
Feb. 15.	Sioux City, Ia.	Jan. 27
Feb. 15.	Laurel, Miss.	Feb. 3
Feb. 16.	McComb, Miss.	Jan. 6
Feb. 16.	Holyoke, Mass.	Jan. 27
Feb. 16.	Cleveland, O.	Feb. 3
Feb. 17.	Dawson, Minn.	Feb. 3
Feb. 19.	Barnesville, Ga.	Jan. 6
Feb. 19.	Newport, R. I.	Jan. 27
Feb. 20.	Des Moines, Ia.	Jan. 20
Feb. 20.	Albany, N. Y.	Feb. 3
Feb. 20.	Leesburg, Ga.	Feb. 3
Feb. 21.	Mena, Ark.	Jan. 30
Feb. 23.	Caribou, Me. Adv. Jan. 20, 27.	Jan. 20
Feb. 26.	Miami, Fla.	Jan. 30
Feb. 26.	Bartow, Fla.	Jan. 27
Feb. 27.	Stanford, Fla.	Jan. 27
Feb. 28.	Ft. Morgan, Colo.	Jan. 27
Mar. 1.	Rochester, Minn.	Jan. 6
Mar. 1.	Butte, Mont.	Jan. 20
Mar. 1.	De Land, Fla. Adv. Jan. 20, 27.	Jan. 20
Mar. 1.	Beeville, Tex. Adv. Jan. 27, Feb. 3.	Jan. 27
Mar. 3.	Basin, Wyo.	Feb. 3
Mar. 5.	Comfrey, Minn.	Jan. 27
Mar. 6.	Madison, S. D.	Feb. 3
Mar. 6.	Savanna, Ill.	Feb. 3
Mar. 7.	Bay City, Tex. Adv. Feb. 3.	Feb. 3
Mar. 9.	Hammond, La. Adv. Feb. 3.	Feb. 3
Mar. 12.	Martin, Tenn.	Feb. 3
Mar. 13.	Hiawatha, Kan.	Feb. 3
Mar. 18.	Pulaski, Va.	Feb. 3
Feb. 20.	Garden Prairie, Ill.	Feb. 3
May 1.	Minneapolis, Minn.	Nov. 25

FOUNDATIONS, PIERS AND DAMS

Jan. 31.	Kansas City, Kan.	Jan. 20
Feb. 10.	Louisville, Ky. Adv. Jan. 13 to Feb. 3.	Jan. 13
Feb. 16.	Seattle, Wash.	Feb. 3

EXCAVATION, DREDGING AND DRAINAGE

Feb. 5.	Savannah, Ga. Adv. Jan. 13 to Feb. 3.	Jan. 13
Feb. 5.	St. Peter, Minn.	Jan. 20
Feb. 6.	Palatka, Fla.	Feb. 3
Feb. 7.	New Brunswick, N. J.	Jan. 27
Feb. 8.	New York, N. Y. Adv. Jan. 13 to Feb. 3.	Jan. 13
Feb. 8.	Sibley, Ia.	Feb. 3
Feb. 10.	Austin, Minn.	Jan. 27
Feb. 10.	Winamac, Ind.	Feb. 3
Feb. 10.	Tacoma, Wash.	Feb. 3
Feb. 10.	Monticello, Ind.	Feb. 3
Feb. 12.	Estherville, Ia.	Jan. 27
Feb. 13.	Primghar, Ia.	Feb. 3
Feb. 19.	Waterford, Cal.	Jan. 27
Feb. 19.	Wilmington, Del. Adv. Jan. 27, Feb. 3.	Jan. 27
Feb. 19.	Woodbury, N. J.	Jan. 27
Feb. 19.	Wilmington, Del.	Feb. 3
Feb. 23.	Crookston, Minn.	Jan. 27
Feb. 23.	Passaic, N. J. Adv. Jan. 27, Feb. 3.	Jan. 27
Mar. 7.	Alexandria, La.	Jan. 13
Mar. 15.	Neodesha, Kan.	Jan. 27
Mar. 15.	Cedar Rapids, Ia.	Jan. 27

TUNNELS AND SUBWAYS

Feb. 6.	Philadelphia, Pa. Adv. Jan. 6, 13.	Jan. 6

MISCELLANEOUS

Feb. 6.	Swissvale, Pa.	Jan. 20
Feb. 6.	Road Oil, New Ulm, Minn.	Feb. 3
Feb. 7.	Metal Culverts, Livingston, Mont.	Jan. 20
Feb. 7.	Park Improvements, Philadelphia, Pa.	Feb. 3
Feb. 12.	Natatorium, Milwaukee, Wis.	Feb. 3
Feb. 12.	Park, Santa Rosa, Cal.	Feb. 3
Feb. 13.	Bucket and Screw Conveyor, Summerland, Cal. Adv. Feb. 3.	Feb. 3
Feb. 13.	Crushed Stones, Millburn, N. J.	Feb. 3
Feb. 13.	Stack, Asbury Park, N. J.	Feb. 3
Feb. 14.	Lock Gate Machinery, Pittsburgh, Pa. Adv. Jan. 20 to Feb. 3.	Jan. 20
Feb. 14.	Steel Pipe, Schenectady, N. Y. Adv. Feb. 3.	Feb. 3
Feb. 15.	Crushed Stone, Flemington, N. J. Adv. Feb. 3.	Feb. 3
Feb. 15.	Road Oil, Fresno, Cal.	Feb. 3
Feb. 19.	Air Compressors, Air Locks, Etc., New Orleans, La. Adv. Jan. 13, 20.	Jan. 13
Feb. 19.	Cranes, Washington, D. C.	Feb. 3
Feb. 26.	Bucket Dredge, Vallejo, Cal.	Feb. 3
Feb. 26.	Asphalt, St. John, N. B.	Feb. 3

SEARCHLIGHT SECTION

Official Proposals

Price, $2.40 an inch—Copy can be received until Wednesday, 5 p. m. for issue mailed the next day

Bids open February 28, 1917.

NOTICE TO CONTRACTORS

BARGE CANAL WORK

STATE OF NEW YORK,
OFFICE OF SUPERINTENDENT OF PUBLIC WORKS,
ALBANY, N. Y.

Sealed proposals will be received by the undersigned at his office in the Capitol at Albany, N. Y., until twelve o'clock noon of Wednesday, Feb. 28, 1917, at which place and hour they will be publicly opened and read, for improving the New York State canals pursuant to the provisions of Chapter 147 of the Laws of 1903, and of the acts amendatory thereof and supplementary thereto, and Chapter 570 of the Laws of 1915, as follows:

1.

CONTRACT NO. 84.
Erie Canal—Section 8.

For constructing portions of a viaduct over the Clyde River and railroad tracks at Clyde.

Sheets 1 to 11 inclusive.

2.

CONTRACT NO. 122-A.
Erie Canal—Section 4.

For constructing the substructure and superstructure, and completing the approaches of a highway bridge over the Mohawk River near Little Falls, at about Barge Canal Center Line Station 4246-42.

Sheets 1 to 11 inclusive.

3.

CONTRACT NO. 131-A.
Champlain Canal—Section 1.

For completing the reconstruction of the highway bridge crossing the main channel of the Hudson River at Schuylerville.

Sheets 1 to 7 inclusive.

Plans may be seen and detailed specifications, engineer's estimate of quantities, proposal blanks, form of contract and bonds required and other information for proposers may be had at the office of the Superintendent of Public Works at Albany, N. Y.; at the office of the Assistant Superintendent of Public Works for the Middle Division at Syracuse, N. Y.; at the office of the Assistant Superintendent of Public Works for the Western Division at Rochester, N. Y., and at the canal office Spaulding's Exchange, Buffalo, N. Y.

Copies of detailed plans or drawings may be obtained from the State Engineer and Surveyor at Albany, N. Y., upon payment to him of the cost of producing them.

Monthly estimates will be paid of ninety per centum (90 per cent) of the work done at the contract price. Every proposal for said work must be accompanied by a money deposit in the form of a draft or certified check upon some good banking institution in the city of Albany or New York, issued by a national or state bank in good credit within the state and payable at sight to the Superintendent of Public Works for five per centum (5 per cent) of the amount of the proposal.

The person whose proposal shall be accepted will be required to execute a contract and furnish bonds within ten days from the date of notice of award delivered to him or them in person or mailed to the address given in the proposal.

Upon execution of the contract and approval of bonds, the certified check or draft will be returned to the proposer unless the same shall have been presented for collection prior to such time, in which case the amount of the deposit will be refunded by the Superintendent of Public Works.

The deposits of bidders other than the one to whom the award of contract shall be made will be returned immediately after the award has been made.

The bond required for the faithful performance of each contract shall be in such sum as shall be fixed by the Superintendent of Public Works, which sum shall not be less than twenty per centum (20 per cent) of the estimated cost of the work according to the contract price, and an additional bond, known as the labor bond, in the sum of ten per centum (10 per cent) of the amount of the estimated cost of the work according to the contract price, will be required as security that the contractor will pay in full at least once in each month all laborers employed by him upon the work specified to be done in the contract.

In the event that more than one surety company is offered as surety on said bonds, co-insurance only will be accepted.

Each proposal must be addressed to the Superintendent of Public Works, Albany, N. Y., and must be endorsed on the envelope with the name of the construction for which the proposal is made.

Award, if made, will be made to the person or persons whose proposal shall be lowest in cost to the state for doing the work and which shall comply with all provisions required to render it formal. Before any award shall be made the lowest bidder will be required to satisfy the Superintendent of Public Works of his ability to provide suitable equipment and materials for the proper performance of the work.

The right is reserved to reject all proposals and readvertise and award the contract in the regular manner if, in the judgment of the undersigned the interests of the State will be enhanced thereby.

W. W. WOTHERSPOON,
Superintendent of Public Works.

January 29, 1917.

Bids open February 20, 1917.

VITRIFIED TILE SEWERS

DEPARTMENT OF WORKS
OSWEGO, N. Y.

Sealed proposals will be received by the Department of Works up to 2 P. M., February 20th, and then opened for the following sewer construction:

Approximately 6800 linear feet of 6" to 12" vitrified tile sewers with the necessary "Y" branches, manholes, catch-basins, flush ends, etc.

Plans and specifications and any further information on the above work may be obtained from the City Engineer of the City of Oswego, N. Y.

Work will be under two contracts and proposals submitted therefore must be accompanied by a certified check for 10 per cent of the amount of the proposal.

The Department of Works reserves the right to reject any and all bids.

CHARLES W. LINSLEY,
Commissioner of Works.

January 23, 1917.

Bids open January 19 and 20, 1917.

HIGHWAY IMPROVEMENTS

OFFICE OF THE STATE COMMISSION OF HIGHWAYS,
ALBANY, N. Y.

Sealed proposals will be received by the undersigned at their office, No. 55 Lancaster Street, Albany, N. Y., at 1 o'clock p. m., on Monday, the 19th day of February, 1917, for the construction of highways in the following counties:

Albany (one highway—1.45).
Broome (two highways—5.35, 6.93).
Chautauqua (one highway—4.19).
Chenango (one highway, 7.12).
Clinton (one highway, 5.95).
Columbia (one highway—5.02).
Cortland (one highway—2.33).
Erie (four highways—3.54, 0.91, 2.97, 5.26).
Essex (one highway—4.95).
Fulton (one highway, 2.80).
Hamilton (one highway—6.82).
*Herkimer (one highway—5.84).
Monroe (one highway, 2.73).
Montgomery (one highway, 3.63).
Niagara (one highway, 0.61).
Oneida (two highways—6.15, 5.74).
Oswego (one highway—5.63).
Rensselaer (one highway—6.34).
Saratoga (one highway—9.06).
Ulster (one highway—1.80).
Warren (one highway, 4.59).
Westchester (one highway—1.09).
*Jefferson (one highway — completion, 4.60).

Sealed proposals will also be received at 1 o'clock p. m., on Tuesday, February 20, 1917, for the improvement of the following highways:

Broome (two highways—2.78, 4.08).
Clinton (one highway—3.34).
Erie (four highways—2.90, 3.02, 2.34, 5.78).
Essex (one highway—8.85).
Fulton (one highway—4.90).
Hamilton (one highway—6.74).
Herkimer (one highway—5.67).
Monroe (one highway—4.56).
Montgomery (one highway—completion, 5.66).
Nassau (one highway—2.99).
Oneida (two highways—0.45, 1.05).
Otsego (one highway, 4.09).
Rensselaer (one highway—4.95).
Rockland (one highway—0.24).
St. Lawrence (one highway—4.60).
Schenectady (one highway—3.42).
Schoharie (one highway—5.25).
Seneca (one highway—0.05).
Suffolk (one highway—11.58).
Tompkins (one highway—2.46).
Ulster (one highway—completion, 1.85).
Wayne (one highway—1.88).

Also broken stone, Contract No. 73, Onondaga and Wayne Counties. Approximate 5900 tons.

Maps, plans, specifications and estimates may be seen and proposal forms obtained at the office of the Commission in Albany, N. Y., and also at the office of the Division Engineers in whose division the roads are to be improved. The addresses of the division engineers and the counties in which they are in charge will be furnished on request.

The especial attention of bidders is called to "General Information of Bidders" on the itemized proposal, specifications and contract agreement.

EDWIN DUFFEY,
Commissioner.

I. J. MORRIS,
Secretary.

Entry of United States into War Might Do More Good than Harm

May Check Further Inflation and Bring Closer Relations with Europe—Building Statistics for Past 15 Years

RECENT DEVELOPMENTS which promise to involve this country in the European war within a short time need not alarm construction men. As a general thing, war stimulates business. Moreover, many economic authorities believe that the action of Germany in provoking the United States to enter the conflict means that the war will come to an end within a short time. In that case, even should this country become involved, it would not be necessary to withdraw from industry one or two million men for military training. Even should this occur, however, it would be regarded in most quarters as the best possible insurance against future difficulties which might seriously threaten the economic life of the country. It is pointed out that should this country be drawn into the struggle, more comprehensive and systematic methods of financing this country's share of the war burden—which we are actually

STEADY INCREASE IN BUILDING PERMITS AT 40 LARGEST CITIES

carrying already to the extent of several billion dollars' worth of exports for which we can receive no payment until the war is over—would certainly help conditions here. In addition to the lessened danger from gold inflation, if most of our industries whose cost of production has been greatly increased by the war were turned over to producing government supplies on a cost basis, any undue inflation of the cost of living and wages which may have occurred in some lines would be checked by more scientific management. Closer relations brought about with foreign countries through participation in the war, and through being an interested party to any peace concluded, could scarcely fail to benefit the foreign trade of this country, which is of the first importance to the United States.

Building statistics have been systematically compiled in this country only during recent years. On this account, the accompanying diagram, which goes back several years farther, according to its authors, than any other set of complete statistics, is of unusual interest. It suggests that during the period covered, building construction in this country has actually been on a steady increase. The figures, which include complete statistics of the building permits issued in forty leading cities of the country, were compiled by the Atlantic Company of Brooklyn, manufacturer of sash chain, as a basis with which to compare its operating results over a period of several years. While much of the information has been furnished by the U. S. Geological Survey, and by various agencies which now collect these statistics, most of the earlier information was secured as a result of direct investigations carried out by this company. The authors of the chart point out that the great increase during 1916 in the value of building permits does not represent accurately the actual amount of construction work, both because of increases in the cost of construction and because of the large increase in building permits issued in New York City recently, prior to the enactment of new building limitations. The increase in the value of permits of the forty largest cities of the country from 1915 to 1916 is, according to these figures, more than 28 per cent. The increase in the seven-year average of 1909-1915 over that of 1902-1907 is 29.3 per cent.

Buildings

The following table includes the more important building projects noted in this issue:

	Kind	Cost
Contracts awarded:		
Dayton, Ohio	Power plant	$300,000
Toronto, Ont.	Factory buildings	500,000
Bids opened:		
Waterbury, Conn.	High school	324,000
Proposed work:		
Elizabeth, N. J.	Shipbuilding plant	3,000,000
Asbury Park, N. J.	Auditorium	500,000
Philadelphia, Pa.	Store	1,000,000
Trenton, N. J.	Hotel	700,000
Trenton, N. J.	Trolley terminal	600,000
Hartland, W. Va.	Power plant	1,000,000
Port Arthur, Ont.	Pulp mill	1,000,000
Aberdeen, Wash.	Pulp mill	750,000

Roads and Paving

The following table summarizes the more important work noted in this issue:

	Kind	Cost
Contract awarded:		
Baltimore, Md.	Asphalt	$107,000
Proposed work:		
Asheville, N. C.	Paving	200,000
Alabama	Funds available	1,210,000
Sapulpa, Okla.	Funds available	225,000
Okmulgee, Okla.	Bonds sold	800,000
Alexandria, La.	Bonds for sale	200,000
El Paso, Tex.	Road improvements	450,000
Salt Lake City, Utah	Paving	1,032,000
Coquille, Ore.	Highway work	311,000
Cheney, Wash.	Highway	150,000
San Francisco, Cal.	Boulevard	600,000

Waterworks and Sewers

Waterworks and sewer construction noted in this issue includes the following:

	Kind	Cost
Bids received:		
Milwaukee, Wis.	Sewer tunnel	$386,000
Bid desired:		
Brooklyn, N. Y.	Concrete sewer	706,000
Proposed work:		
Irvington, N. J.	Waterworks	600,000
Clinton, Iowa	Waterworks	1,107,000
Minneapolis, Minn.	Sewer	500,000
Port Arthur, Tex.	Waterworks and sewers	180,000
York Mills, Ont.	Water mains	320,000

Miscellaneous Headings

Bids will be opened March 1, at Los Angeles, for the construction of a $900,000 tunnel. Estimates have been made for a $500,000 bridge over the Ohio River, near Beaver, Pa. An ordinance authorizing the issue of $3,500,000 bonds for channel improvement has been authorized at Columbus, Ohio. The Toronto Board of Control contemplates building coal docks and terminal buildings to cost $2,000,000.

Important proposed railroad work is noted in this issue, the largest project being the $12,000,000 Pennsylvania improvements at Baltimore, plans for which have been submitted to the City Council by the railroad. A project on the Western Maryland Railway involving construction work costing $1,000,000, at the same city, has been sanctioned. It is reported that the Southern Railway will undertake further improvements to cost $5,000,000, including heavy double-tracking work in the French Broad River cañon between Knoxville, Tenn., and Asheville, N. C. The Canadian Northern Railway is said to be about to construct a $7,000,000 railway from Toronto to Niagara.

A large number of hydroelectric projects noted in this issue include a $250,000 dam at Manchester, N. H., a $1,400,000 power development and transmission line at Sherbrooke, Que., the $2,500,000 power development proposed at Port Arthur, Ont., a $278,000 development near Mongo, Ind., developments costing $15,000,000 on the Missouri River, near Kimball, S. D., and a $1,500,000 power plant at Edmonton, Alta.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Where name of official is not given inquiries should be addressed to City Clerk, County Clerk or corresponding official.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK

Binghamton, N. Y.—City planning expenditure of $60,000 for additional intercepting sewer and to lay about 1½ miles of water mains. F. E. Beck, supt. water wks.

Corona, L. I., N. Y.—City will spend about $100,000 for 2 miles of sewers in portions of 50th, 49th, 48th, 47th, 46th and 45th Sts. from Hayes to Burnside Aves. and in 43rd and 44th Sts. south of Burnside.

Fairport, N. Y.—Storm drainage bonds for $25,000 and paving bonds for $21,000 will be sold by village Feb. 23; address C. F. Fisher, engr., 304 Ravine Ave., Rochester.

Fredonia, N. Y.—Vote will probably soon be taken on question of installing trunk sewers and disposal plant, according to revised estimates recently submitted to Village Trustees by Fred K. Wing of Buffalo; cost is estimated at $128,000.

Mt. Morris, N. Y.—All bids opened Feb. 1 for sale of 600 tons c. i. pipe, class D, weight 900 lb., were rejected. Geo. L. Bailey, village clk.

Dover, N. J.—Council will ask legislature to pass a law permitting bonding of town in the sum of $500,000 for the purpose of obtaining additional water supply and equipping storage reservoir. In the meantime bonds will be issued for $60,000 to assist in the work.

Hoboken, N. J.—City Comn. approved appropriation of $70,000 for sewerage system.

Irvington, N. J.—I. J. Casey, Jr., town engr., writes $600,000 will be spent on waterworks to include two 3,000,000-gal pumps, one 700,000-gal. standpipe, about 277,666 ft. of 2 to 20-in c. i. pipe, 548 valves and 316 hydrants. Election for above work will probably be held in May.

Ogdensburg, N. J.—Special election will be held Feb. 13 to vote on question of constructing waterworks and 300,000,000-gal. capacity reservoir. Wm. N. Harris, boro. clk.

Paulsboro, N. J.—City Council considering installation of sewer system.

Wharton, N. J.—Water Bd. will have plans ready Feb. 20 to construct municipal water system and storage reservoir. John T. Spargo interested.

Erie, Pa.—City considering construction of sewage treatment plant. Miles B. Kitts, mayor.

Kutztown, Pa.—Borough considering construction of filtration plant. N. Z. Dunkelberger, mayor.

Pennsylvania.—Plans approved by State Bd. of Health, Harrisburg, for waterworks and sewer extensions as follows (C. A. Emerson, Jr., act. ch. engr.

Aston Township, Delaware Co. (Aston Water Co.), new system with filtered supply.

Chester (New Chester Water Co.), filtration plant.

Franklin, additional drilled well supply.

North Buffalo Township, Armstrong Co., Cadogan Village (Allegheny River Mining Co.), filtration.

Upper Chichester Township, Delaware Co. (Upper Chichester Water Co.), new system with filtered supply.

East Franklin Township, Armstrong Co., Furnace Run Village No. 1 (Allegheny River Mining Co.), filtration.

Mohnton (Mohnsville Water Co.), filtration.

Ringtown, waterworks.

Rimersburg, additional drilled well supply.

Woodlawn (Woodlawn Water Co.), additional pumping equipment and reservoir.

Smith Township, Washington Co. (Langeloth Townsite Co.), filtration.

Pulaski Township, Lawrence Co. (Sisters of the Holy Humility of Mary, Inc.), sewerage and sewage treatment.

Philadelphia, sewer extensions.

Clarion, dist. sanitary sewer and intercepting sewer.

Punxsutawney, dist. sanitary sewers, outfall sewer and sewage treatment.

Coatesville, lateral sanitary sewer extensions and sewage disinfecting apparatus.

Archbald, comprehensive sanitary sewerage.

Taylor, comprehensive sanitary sewerage

Tyrone Township, Perry Co. Co. Comrs. (almshouse), sanitary sewer system and sewage treatment; (Tressler Orphans' Home), sewerage and sewage treatment.

Vandergift, comprehensive sanitary sewer system and preliminary plans for sewage treatment.

Philadelphia, Pa.—Dir. Datesman of the Dept. Pub. Wks., is said to favor new loan of $10,000,000 for an independent water main in 3rd St. to extend from Lardiner's Point Pumping Station.

Jessup, Md.—About $40,000 will be spent by State Bd. of Prison Control at Maryland House of Correction at Jessup for water supply improvements to include intake, with straightening of water course, supply pipe line, settling basin, low-pressure pumping station, covered slow sand filtration plant of 200,000-gal. capacity, new distribution and fire systems, 100,000-gal. elevated tank and sewage disposal plant improvements to consist of primary and final Imhoff tanks and sprinkling filters and construction of new sewer connections. Work will be carried on under direction of Robert B. Morse, ch. engr., State Dept. of Health, 16 W. Saratoga St., Baltimore. Contract will be let shortly for the elevated tank and materials for construction, such as piping, etc., and later for filter control apparatus.

Towson, Md.—State Bd. of Health reported preparing plans for sewerage system in Govans area in Baltimore Co.

Hickory, N. C.—Press reports state City Council plans constructing raw water pumping station, 350 000 gal. filter plant with brick and concrete building to house plant, remodel present sand filter for use as a coagulating basin and install two 250 gal. per minute centrifugal pumps.

Lumberton, N. C.—Water and light improvement bonds for $51,000 will be sold Feb. 21 by Ira B. Townsend, clerk and treas.

Winston Salem, N. C.—City will hold election March 27 to issue $175,000 bonds to extend sewer system and $125,000 for waterworks.

Spartanburg, S. C.—City considering waterworks improvements, work to include 18,000 ft. different sized pipe. M. M. Boyd, supt. waterworks.

Albany, Ga.—Reported construction of storage reservoir and additions to pumping units being considered. H. F. Tift, supt. waterworks.

Atlanta, Ga.—It is reported that city will spend about $17,000 for completing the Highland Ave. sewer from Ponce de Leon baseball park to Angier Ave.

Savannah, Ga.—Plans being prepared for the expenditure of $10,000 to be used for extending water mains and sewerage connections by Water Comn. (H. L. Kayton, chmn.).

Tarpon Springs, Fla.—Bonds voted by city for $15,000 to be used for extending sewer system and $15,000 for waterworks.

Talladega, Ala.—Reported City considering 14 miles 16-in. gravity line to increase water supply. E. M. Osborne, gen. mgr. & purch. agent.

Lafayette, La.—City will spend $90,000 for sewers and $30,000 for waterworks extensions.

Knoxville, Tenn.—Improvements to filter plant, installation of new tubes and use of a gaseous compound instead of the bichloride of lime process of water purification now employed contemplated by Water Commission.

Paris, Tenn.—City planning $40,000 bond issue to be used for filter plant. M. W. Younkin, supt. water and light plant.

Akron, O.—Summit Co. will ask state to construct a reservoir in Tuscarawas Valley south of Akron to provide a water supply for industries.

Canton, O.—City Engr. W. E. Sarver estimates cost of constructing sanitary sewer in 8th St. N. E., from Berden Ave. to city line, at $12,210.

Chardon, O.—H. C. Bickle, mayor, writes construction of waterworks contemplated; cost $60,000. J. Winthrop Pratt, engr., 2048 E. 42nd St., Cleveland.

Newark, O.—Reported sewer bonds for $35,940 will be sold Feb. 14 by A. Nelson Dodd, city aud.

Springfield, O.—City Engr. M. J. Bahin, in his annual report recommends construction of sewage disposal plant.

Kendallville, Ind.—City considering construction of 250,000-gal. storage reservoir for fire protection. Willis E. Sawyer, city engr.

Detroit, Mich.—Clarence W. Hubbell, city engr., has outlined his plan for city sewer work and his department is reported to be preparing estimates of cost which will be included in the city budget; the cost of the proposed new system, it is reported, will cost about $16,000,000, to be completed in about 5 years, and will add about 500 miles to new sewers.

Muskegon Heights, Mich.—Election will be held Feb. 26 on question of issuing $110,000 bonds for constructing sewer system. Hoad & Decker, engrs., Ann Arbor.

Pontiac, Mich.—Election to be held in April to issue bonds to be used for construction of sewage disposal plant. Leman C. Cambrey, city clk.

Peoria, Ill.—L. D. Jeffries, city engr., has completed plans for $15,000 storm sewer along Goodwin St.

Hartford, Wis.—City considering waterworks extensions. J. H. G. Leiven, mayor.

New Lisbon, Wis.—Contract will be let this spring for installing sewage disposal tank. H. J. Gibson, city clk.

Bancroft, Ia.—Town plans $15,000 bond issue to be used for extending water mains.

Clinton, Ia.—Estimated cost of proposed waterworks here is at $1,107,720, according to report submitted to Council by J. G. Thorne, city engr.

North McGregor, Ia.—Town considering construction of waterworks and sewerage system.

West Union, Ia.—City considering sewer improvements. E. M. Phillips, mayor.

Halstead, Minn.—Village considering construction of sewer system. A. O. Ueland, village clk.

Minneapolis, Minn.—City Council has presented to Hennepin county senate delegation a request for bond issue of $500,000 for sewers for Linden Hills Dist. Thomas van Lear, mayor.

St. Paul, Minn.—City Council has approved plans for sewers on portions of Arch St., L'Oriant St., and Hamline, Stamford, Jefferson Aves.; storm relief sewer on portions of Como Ave. W. and Knapp Pl., etc.

Beloit, Kan.—City has engaged Black & Veatch, Interstate Bldg., Kansas City, Mo., to prepare plans for water filtration and softening plant for waterworks and addition to electric light plant; 150-hp boiler and steel smokestack needed in the light plant. Probable cost $35,000. F. A. Darst, supt. water dept.

Bunker Hill, Kan.—Preliminary plans being prepared by W. B. Rollins, Co. Railway Exchange Bldg., Kansas City, Mo., for installing waterworks and electric light plant. Bonds for above work will soon be voted.

Caldwell, Kan.—Town voted $80,000 bonds to be used for extending water and lighting systems; pumping plant will be moved from Bluff Creek to railway right of way north of town; wells will be bored for purer water.

Kansas City, Kan.—City plans 10,000,000-gal. reinforced concrete reservoir in Argentine and Armstrong Dists.

Minneapolis, Kan.—City considering considering construction of sanitary sewers; cost $24,500. Contract will be let about June 1 if work is approved.

Clear Lake, S. D.—City voted $25,000 bonds to be used for constructing sewers.

Milbank, S. D.—Election to be held in March to issue $14,000 bonds to install waterworks. A. A. Blomquist, city clk.

Terry, Mont.—Election soon to be held to issue bonds to be used for waterworks and sewer systems. J. E. Thomas, city clk.

Joplin, Mo.—City Engr. reported preparing plans for storm sewers in B St. sewer district. J. B. Hodgdon, comr. of streets.

Beaumont, Tex.—Plans being prepared by Waterworks Comn. for extensions of water mains to all parts of city; $100,000 bonds have been voted for above work. M. K. Fletcher, supt. waterworks.

Longview, Tex.—Plans will probably be completed about March 15 for construction of sewage disposal plant of 250,000 gal. daily capacity. H. N. Roberts, city engr.

Port Arthur, Tex.—Attorney General's Dept., Austin, has approved bond issue of $100,000 for sewer extensions and $80,000 for waterworks improvement.

Sapulpa, Okla.—City has decided to spend $10,250 for construction of dam for additional water supply.

Tahlequah, Okla.—Plans being prepared for construction of municipal waterworks; cost about $30,000.

Auburn, Wash.—City Council has instructed City Engr. to prepare plans and estimates of cost of enlarging present sewer system.

Sedro-Woolley, Wash.—Reported city considering construction of sewer system in districts embraced by Nelson and Bennett Sts., extending from 4th to 8th Sts.

Hanford, Cal.—Bonds for $44,000 have been voted to be used for extensions to municipal water mains. E. M. Lynch, Glendale, engr.

Santa Monica, Cal.—City proposes purchasing 7 pumps and construct a 2,000,000-gal. reservoir. W. S. Dole, supt. water wks.

Jerome, Ariz.—Election to be held Feb. 13 on question of issuing $50,000 bonds to install sewers. T. L. McLeod, city engr.

Emmett, Idaho.—Election to be held by city Feb. 17 to vote $17,000 bonds to be used for sewerage improvement work.

Nez Perce, Idaho.—Council has passed an ordinance creating local Sewerage Dist. No. 4 to construct sewer system and disposal works. Thos. M. Roberts, clk. Sawyer Bros., Engrs., Seattle, Wash.

Cayuga, Ont.—Contracts will soon be let for 1 plunger pump, 500 gal. capacity, steel tower, standpipe, 20,000 gal. capacity, c. i. pipe, steel pipe and hydrants, etc. Plans being prepared by Jackson & Lee, Temple Bldg., Brantford.

London, Ont.—Utilities Comn. (E. V. Buchanan, gen. mgr., City Hall), contemplates laying new mains and making extensions to cost $60,000. Work to start in spring.

Strathroy, Ont.—Council planning extension to water supply.

York Mills (York Township), Ont.—Contract about to be let by York Township Council for construction of water mains in Dists A and B; estimated cost $320,000. Frank Barber, Toronto, engr.

Trail, B. C.—A. L. McCulloch, engr., Nelson, in his report to City Council regarding present water supply and plans for increasing same, estimates cost at $46,500. Reported work will be started in spring.

BIDS DESIRED

Brooklyn, N. Y.—Until Feb. 14 by L. H. Pounds, boro. pres., Room 2, Boro. Hall, for constructing sanitary sewers in portions of E. 45th, 61st and 19th Sts., and for constructing sewer basins in portions of Ocean Ave; work includes about 2905 ft. of from 12 to 15-in. pipe sewers, together with house connections, manholes, etc.; cost about $6965; total security, $3250; also for constructing storm water sewers in portions of Ocean Ave.; work includes about 11,011 lin. ft. of concrete sewers of from 10 to 13 in., 7075 ft. of from 6 to 8-in. sanitary house connection drains, together with manholes, receiving basins, etc.; cost about $706,003; total security, $250,000.

New York, N. Y.—Until Feb. 14 by Marcus M. Marks, boro. pres., Room 2032 Municipal Bldg., for constructing receiving basins (and inlets) at S. E. corner of Lennox Ave. and 112th St., and at N. W. corner of Beekman and Gold Sts., and at 5 other points; work includes about 628 ft. of from 8 to 12-in. basin connections, together with inlets, earth excavation, etc.; total security $3,800.

Bayonne, N. J.—Until Feb. 20 by Bd. Comrs. (Wm. P. Lee, city clk.) for laying water mains in Newark Bay Court, Hudson Blvd., Linden and 19th Sts.; work includes about 1488 lin. ft. of from 6 to 8-in. c. i. water pipe; bond for $8,000 to accompany bid.

Milwaukee, Wis.—Following are 4 lowest bids opened Feb. 1 by city for constructing sewers under Kinnickinnic River: (a) Jas. A. Green & Co., 57 E. Jackson Blvd., Chicago, Ill., $386,769; (b) Wisconsin Tunnel & Constr. Co., 810 Majestic Bldg., Milwaukee, $406,144; (c) Jas. Ferry & Sons, 930 Mediterranean St., Atlantic City, N. J., $426,836; (d) John F. Casey & Co., Oliver Bldg., Pittsburgh, Pa., $443,445.

	(a)	(b)	(c)	(d)
1536 lin. ft. 60" concrete sewer	$33.30	$26.25	$38.00	$28.00
6436 lin. ft. 48" concrete sewer	20.00	23.75	28.25	26.00
5598 lin. ft. 42" concrete sewer	19.50	22.50	15.00	25.00
78 lin. ft. 36" concrete sewer	37.70	25.00	31.00	25.00
2729 lin ft. 18" terra cotta and concrete sewer	14.30	12.00	12.00	8.50
633 lin ft. 12" terra cotta and concrete sewer	13.00	12.00	8.50	6.10
690 vert. ft. standard manholes	18.00	10.00	8.00	23.20
100 vert. ft. drop manholes	20.00	20.00	10.00	25.20
41 cast iron manhole frames and covers	15.00	20.00	15.00	15.00

Following are 4 lowest bids opened same place and date as above, for constructing sewers in 40th St. from Watertown Rd to Chestnut St.: O. H. Bassert, 848 Jackson St., Milwaukee, $28,304; Underground Constr. Co., Chicago, Ill., $33,238; Wisconsin Tunnel & Constr. Co., 810 Majestic Bldg., Milwaukee, $35,965; Hermen Hohensee, 965 27th St., Milwaukee, $40,926.

Philadelphia, Pa.—Until Feb. 14 for Sch. "A," constructing intercepting sewer along Frankford Creek; "B," for work incident to erection of sewage disposal plant. Address Geo. E. Datesman, dir. pub. serv., Room 416, City Hall.

Philadelphia, Pa.—Until Feb. 16 by Dept. Pub. Wks., for furnishing c. i. pipe for mechanical stoker equipment at Lardner's Point Pump Station, and for centrifugal pump impeller casting for City Shop.

Baltimore, Md.—Until Feb. 21 by Bd. Awards (John Hubert, actg. pres.) at office of city register, City Hall, for furnishing and delivering to Water Dept. brass and bronze castings, valves, etc.; advertised in this issue.

Washington, D. C.—Until Feb. 15 by Comrs. for constructing sewers in District of Columbia; work includes about 6400 lin. ft. pipe, masonry sewers from 2 to 6 in. in diameter; plans may be obtained from Chief Clk., Engr. Dept., Room 247. District Bldg.

Alliance, O.—Until Feb. 20 by J. H. McConnell, dir. pub serv., for constructing brick pumping station, concrete foundation, concrete covered clear water reservoir, hand-operated crane, piping connections, c. i. pipe, etc. Chester & Fleming, engrs., Union Bank Bldg., Pittsburgh, Pa.

Cincinnati, O.—Until Feb. 13 by Chas. F. Hornberger, dir. pub. serv., for constructing sewers in portions of Paxton Road and Baltimore Ave.

Ravenna, O.—Reported desired until March 10 for improving water works. Address Dir. Pub. Serv.

Milwaukee, Wis.—Until Feb. 23 by Sewerage Comn. (J. H. Fowles, secy.), City Hall, for constructing extensions to intercepting sewer system; work includes about 2731 lin. ft. of from 12 to 36-in. terra cotta pipe sewer, 7150 lin. ft. 36-in. concrete sewer, together with manholes, etc., advertised in this issue.

Burlington, Ia.—Until Feb. 28 by Citizens Water Co. (Frank Lawlor, supt.) for an horizontal cross-compound crank and flywheel, condensing pump engine with capacity 4200 gal. per minute for pumping water from river to settling tanks; advertised in this issue.

St. Paul, Minn.—See "Roads and Paving."

St. Louis, Mo.—Reported desired until Feb. 16 by E. R. Kinsey, pres. bd. pub. serv., for furnishing general and detail drawings and erecting 1000-gal steam-driven turbine centrifugal pump at Low Service Pumping Station, Chain of Rocks.

Corvallis, Ore.—Until Feb. 19 by A. T. Grugett, municipal judge, for constructing 620 ft. of 24-in. sewer with appurtenances; also for improving 6th St. with about 8900 sq. yd. of paving, curbs, gutters, etc.; plans may be obtained from city clk.

Panama.—Until Feb. 19 by Major Earl I. Brown, Corps. Engrs, U. S. A., purch. agt., Panama Canal, for Circ. No. 1119 for furnishing pipe fittings, valves, etc.

Toronto, Ont.—Until Feb. 27 by T. L. Church, chmn. bd. control, City Hall, for constructing drainage system (wrought iron pipes) for Rosedale Bridge, Bloor St. Viaduct; plans may be obtained at Bloor St. Viaduct Field Office, 89 Castle Frank Road.

Winnipeg, Man.—Until March 15 by R. D. Waugh, chmn. Comrs. Greater Winnipeg Water Dist., 501 Tribune Bldg., for about 13,300 ft. of from 48 to 60-in. c. i. pipe; advertised in this issue.

PRICES AND LETTINGS

★Indicates award of contract.

★Brooklyn, N. Y.—Contract awarded by Boro. (bids opened Jan. 24) for constructing sewers in portions of 59th St. and E. 8th St. to B. Picone & Son, 544 18th St., Brooklyn, at $9,395.

★Lewistown, Pa.—Contract awarded by Bd. Directors for extensions to waterworks involving 4 miles of 12-in. c. i. pipe (estimated cost $60,000) to Reading Contr. Co., 622 Court St., Reading, at $1.99 per ft. for class A pipe and $2.14 per ft. for class B pipe. S. W. Cooper, supt. Lewistown-Reedsville Water Co., 7½ Valley St.

★Baltimore, Md.—Contracts awarded as follows: Lead-lined pipe to Lead-Lined Pipe Co., Wakefield, Mass, at $63,000; hydrants, valves and miscellaneous iron castings to Central Foundry Co., 90 West St., New York, at $12,700.

★Cincinnati, O.—Contracts awarded by city for manufacturing pipes and valves for water extensions to United States Cast Iron Pipe & Foundry Co., Addyston, at $64,815 (only bidder), and for house connections for 1917 to Jas. J. Brown, 906 Elberon Ave., at $46,872, lowest bidder.

★Detroit, Mich.—Contract for furnishing 16,000 ft. class B c. i. water pipe and special castings awarded to American Cast Iron Pipe Co., 1 B'way, New York, at $41.10 per ton, and to F. C. Brooks & Sons for installing. R. A. Murdoch, engr. water bd.

★Albany, Mo.—Contract awarded by city to Edward Main, Liberty, for constructing sewers and sewage disposal plant at $22,691. E. T. Ascher & Co., engrs., 514 New England Bldg., Kansas City.

Houston, Tex.—Following are 3 lowest bids opened Jan. 29 by city for sanitary sewer on portions of Center St.: F. C. Youmans Constr. Co., $28,306; Houston Constr. Co., $30,934; H. M. Trueheart, $31,656; also 3 lowest bids on portions of Sherman St., Houston Constr. Co., $28,685; Horton & Horton, $39,474; Freund & Quay, $40,930. Bidders all of Houston.

★Contract awarded for furnishing 3 pumps for New South Side Water Plant to H. A. Paine, Houston, at $5,556.

Lowest bid opened same date for laying c. i. water main along Caroline St. from Herrmann Park to Webster Ave., B. F. Round, Dallas, at $10,493.

★Contract awarded for storm sewers on Bryan St., Harrisburg Rd. and Hill St. to Freund & Quay, at $17,735; other bidders, F. C. Youmans Constr. Co., $18,194; C. P. Hunter, $18,904. Biders all of Houston.

★Pocatello, Idaho.—Contract awarded by city for lateral sewers in Dist. 11 to S. W. Gleim, Pocatello, at $11,067.

STRUCTURAL STEEL WORK

PROPOSED WORK

Maine.—Com. on Ways and Bridges (F. P. Washburn, secy.), State House, Augusta, has granted public hearing on following proposed bridge and road improvements: Construction of highway bridges, one over St. John river between Madawaska, Me., and Edmondston, N. B., another over Pleasant Pond stream in Caratunk plantation, Somerset Co.; also 2 over Austin stream on highway leading from Bingham to Caratunk and the Forks, and for highway maintenance in vicinity of these 2 bridges; bridge and road repairs in Indian Township and in Alexander and Princeton; constructing road in Talmadge, also one from southerly end of Wiscasset bridge through Edgecomb and Boothbay Harbor; relocating portion of Houlton road in Baileyville; widening and maintenance of Turnpike road in Camden and Lincolnville.

Boston, Mass.—See "Railroads."

Buffalo, N. Y.—Estimated cost to eliminate grade crossing by constructing bridge as submitted to Public Service Comn. (Devoe P. Hodson, comr.) by B. H. Voorhees, engr. for New York Central RR., in conjunction with proposed 50-ft. widening of W. Ferry St., placed at $229,000 to $290,000. Capt. Geo. H. Norton, city engr.

Pennsgrove, N. J.—States of New Jersey and Delaware propose constructing bridge over Delaware River from here to Gordon Heights, Del., and will appoint joint comn. to prepare plans for undertaking. Address W. A. Hunt, Pennsgrove, N. J.

Mountainview, N. J.—Plan for proposed elimination of grade crossing here calls for bridge over canal and railroad tracks with 30-ft. roadway and two 10-ft. sidewalks, and includes straightening of Newark-Pompton turnpike, with 5 per cent grade approaches to bridge. Jos. McDonald, dir., Bd. Freeholders, Paterson.

Beaver, Pa.—C. M. Canady, engr., American Bridge Co., 30 Church St., New York City, estimates cost to construct (a) cantilever bridge, (b) suspension bridge over Ohio River between Ambridge and Woodlawn—(a) $738,000, (b) $525,000; between Baden and Aliquippa—(a) $945,000, (b) $665,000. Chas. R. Eckert, member of viewers.

Bethlehem, Pa.—County Comrs. have authorized citizens' com. (Archibald Johnson, chmn.) to construct temporary bridge with 24-ft. driveway and 10-ft. sidewalk over Lehigh River, to use until the $1,000,000 permanent structure is built. Com. has been empowered to salvage for use in temporary bridge or sell any part of present bridge and use proceeds toward constructing temporary bridge.

Coraopolis, Pa.—County Comrs., Pittsburgh, have been requested by residents of Neville Island and Coraopolis to replace present unsafe bridge between these two places with more substantial structure.

Olyphant, Pa.—Plans which have been approved by Olyphant and Blakely boroughs and Lackawanna Co. Comrs., Scranton, have been submitted to State Water Supply Comn., Harrisburg, by W. A. Taylor & Co., Dickson City, Pa., for their approval.

Towanda, Pa.—County Court has approved new location for proposed bridge at Kelloggs, over south branch of Towanda Creek and tracks of Lehigh Valley RR. (E. B. Ashby, ch. engr., 143 Liberty St., New York City) in Monroe Township. Address Co. Clk.

Baltimore, Md.—See "Railroads."
Bd. of Estimate has selected Wm. W. Emmart, Union Trust Bldg., Baltimore, to design series of proposed bridges in South Baltimore, three of these will be on 3rd section of Key Highway, one carrying tracks of Baltimore & Ohio RR. (R. N. Begien, ch. engr., Baltimore) over highway at Clement St.; another at Clagget St.; 3rd one carrying Fort Ave. over highway near Lawrence St.; two bridges on Hanover St., one over B. & O. RR. tracks, other over Western Maryland Ry. (H. R. Pratt, ch. engr., Baltimore, Md.), eliminating grade crossing near approach to Hanover St. bridge total estimated cost of Key Highway, part of which is now under construction, placed at $2,000,000, includes cost of municipal railway. James H. Preston, mayor.

Georgetown, S. C.—See "Roads and Paving."

Yorkville, S. C.—Estimated cost to replace Broad River inter-county bridge which was destroyed by last July's floods placed at $25,000; cost will be borne equally by Cherokee and Yorke counties, Gaffney and Yorkville, respective county seats.

Abbeville, Ga.—Reported $10,000 has been raised toward constructing bridge over Ocmulgee River here. Address E. H. Harp, chief of police.

Hazlehurst, Miss.—Reported bonds for $50,000 will be sold March 5 by Co. Comrs. for building bridges. Address Co. Clk.

Anderson, Ind.—Estimated cost of proposed bridge over Lick creek, south of Pendleton, placed at $9,000; one over Fall creek in Adams Township, at $4,000; total estimated cost of proposed bridge work in county placed at $45,000. County also considering constructing concrete bridge over White River at 9th St., this place.

Fort Wayne, Ind.—Estimated cost of constructing proposed bridge over Delta Lake, in Lakeside Park, as prepared for Park Board, placed at $10,000 by F. M. Randall, city engr.

Brockville, Ind.—Contracts will be awarded at an early date by county to construct bridge, 700 ft. long, with three 200-ft. spans, over river near paper mill warehouse; estimated cost $65,000. John Mueller, engr.

Ann Arbor, Mich.—Plans being prepared by Prof. J. J. Cox, Highway Dept., University of Michigan, for viaduct to be constructed over tracks and river, north of city, as well as for fill, for proposed Whitmore Lake grades separation.

Milwaukee, Wis.—Estimated cost of proposed improvements along North Ave. between Humboldt and Cambridge Aves., including construction of North Ave. viaduct, placed at $600,000. J. C. Pinney, supt. bridges and pub. bldgs.
See "Railroads."

Prairie du Chien, Wis.—Stock company being formed by men in this vicinity with intention to construct bridge this summer over Wisconsin River between here and Glenn Park main part of bridge will be 450 ft. long with two short spans over narrow sloughs, one each side of river. Address H. H. Stuckey.

Logan, Ia.—Plans being prepared by A. W. Gaines, co. engr., for following pony truss span bridges: 60 ft. with 18-ft. roadway; one 45 ft. and two 50 ft. with 16-ft. roadways; all with concrete floors and abutments; also 2 concrete bridge piers.

Joplin, Mo.—Cost of proposed viaduct over Frisco RR.'s (F. G. Jonah, ch. engr., St. Louis, Mo.) tracks at E. 7th St. will probably be apportioned one-third each by city (J. B. Hodgdon, street comr.), Frisco RR. and Kansas City Southern Ry. (C. E. Johnston, ch. engr., Kansas City, Mo.); cost to construct proposed viaduct over Frisco RR.'s tracks at 6th St. and Kentucky or Pennsylvania Aves. will probably be borne equally by city and railroad. J. E. Hutchinson, gen. supt. Frisco RR., Springfield, Mo.

Kansas City, Mo.—Proposed plan for constructing viaduct over tracks of Kansas City Terminal Ry. (J. V. Hanna, ch. engr., Kansas City, Mo.), which includes reestablishing grade of Holmes St., between 19th and 23d Sts., by a fill between 20th and 21st Sts. and a 4-ft. cut between 21st and 22d Sts., has approval of interested parties; contracts will probably be awarded in near future. L. Oppenstein, pres. bd. pub. wks.

Wichita, Tex.—M. M. Cooke, engr., Sweetwater, Tex., has been selected by Co. Comrs. to supervise construction of 3 bridges for which $80,000 bonds were recently voted.

Waynoka, Okla.—Township voted $50,000 bonds to construct bridge over Cimarron River.

Seattle, Wash.—Plans being prepared by F. A. Rapp, engr., bridge dept., for $70,000 draw bridge, 293 ft. long, with swing on center pier, 21-ft. roadway, 5-ft. sidewalk, 1400 ft. of approaches and double tracks for trolley cars, over West Waterway at Spokane St.

Montreal, Que.—Norcross Bros., 10 Cathcart St., Montreal, contractors for new Canadian Northern Ry.'s (A. F. Stewart, ch. engr., Toronto, Ont.) $150,000 station, receiving bids on 100 tons of reinforcing steel also tiles and paving blocks.

BIDS DESIRED

Philadelphia, Pa.—Until Feb. 15 by Dept. Pub. Wks. (G. E. Datesman, dir.) for constructing bridge on 5th St.; also bridges on Cobb's Creek Parkway, and wash and core borings for bridge of South St.

Barberton, O.—Until Feb. 23 by Bd. Co. Comrs. (U. G. High, clk.) for the superstructure construction of Hopocan Ave. bridge, spanning Wolf Creek.

Detroit, Mich.—Until Mar. 15, at U. S. Engr. Office for erecting steel lock gates for Fourth Lock, St. Mary's Canal; advertised in this issue.

Council Bluffs, Ia.—Until Feb. 20 by Bd. Co. Supervs, for supplying al material for bridge and culvert work during 1917.

Marshalltown, Ia.—Reported desired until Feb. 25, by W. E. McLeland, co., aud. for constructing bridges and culverts of concrete and steel, various sizes, and 2 pony truss bridges; H. A. Hickok co. engr.

Rockwell City, Ia.—Reported desired until Feb. 15 by Calhoun Co. for constructing one 2-100 ft., 1-100 ft., 1-90 ft., 1-70 ft., and 1-45 ft., span bridges; cost about $40,744. W. E. McClure, co. engr.

Granite Falls, Minn.—Reported desired until Feb. 20 by Yellow Medicine Co., for supplying corrugated Iron Culverts for year 1917; G. H. Wilson, co. aud.

Butte Neb.—Reported desired until Feb. 14, by S. A. Richardson, co. clk., for constructing one or more 15 ton bridges, 20 to 30 ft. spans; certified check for $1000 to accompany bid.

Central City, Neb.—Reported desired until Feb. 19 by W. H. Riggs, co. clk., for constructing wood and steel bridges for year 1917; certified check for $500 to accompany bid.

Dillon, Mont.—Reported desired until March 6 by county for constructing 2 steel bridges. Address Co. Clk.

Sisseston, S. D.—Reported desired until Feb. 19, by R. C. Richert, co. aud. for constructing county bridges.

Horatio, Ark.—Until March 1 for constructing bridge over Little River at Greenwood Shoals; information may be obtained from Lon T. Jones, co. judge, Little River Co., or T. O. Poole, co. judge, Seier Co.

Oklahoma, Okla.—Until Mar. 1, by W. H. Smith, frt. trf. mgr. Webbers Falls R. R. Co., P. O. Box 1414, Muskogee, for constructing bridge, to cost $75,000, and for 14 mi. new line; total cost $275,000.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Georgetown, Md.**—Contract awarded by State Roads Comn., Garrett Bldg., Baltimore, Md., to R. G. Collins, Jr., 52 Vanderbilt Ave., New York City, at $47,477, to construct bridge over Sassafrass river between here and Fredericktown.

★**Falls City, Neb.**—Contract awarded by county (bids opened Jan. 8) to Monarch Eng. Co., Falls City, to construct several bridges and repair others. O. O. Marth, co. clk.

★**East Angus, Que.**—Wilfrid Poulin, Marieville, Que., has received contract to construct $45,000 steel bridge, this place.

REINFORCED CONCRETE

PROPOSED WORK

Ellsworth, Me.—Estimated cost to replace present bridge which is claimed to be beyond repair, between town of Trenton and Mt. Desert Island, with wooden one 970 ft. long and 20 ft. wide, placed at $16,000, and with stone and concrete one, 25 ft. wide, at $22,000. Herbert T. Emery, chmn. Mt. Desert bridge com., Bar Harbor.

New York, N. Y.—See "Buildings."

Asbury Park, N. J.—Plans were prepared by McKim, Mead & White, 101 Park Ave., New York, for erecting steel and concrete auditorium, 300 ft. sq.; cost $500,000. Address H. E. Denegar, Boardwalk, Asbury Park.

Hoboken, N. J.—Reported Lightfoot-Schultz Co., 195 Plymouth St., Brooklyn, N. Y., has purchased site at Park St. and Willow Ave., Hoboken, and will erect 5-story reinforced concrete soap plant to cost about $70,000.

Sharon, Pa.—American Sheet & Tinplate Co., this place, intends constructing concrete stack, 225 ft. high, with outside diameter at base of 26 ft., tapering to 17 ft. at top.

Tampa, Fla.—Reported Circulo Cubano Club will erect club house, 3-story reinforced concrete, to cost $60,000. Bonfoey & Elliott, Archts., Tampa.

Warren, O.—Estimated cost to replace present bridge over river at S. Main St. with concrete one 320 ft. long, that will have 4 spans, 42-ft. roadway and 8-ft sidewalk, placed at $57,850, of which city will pay $39,850 and county $18,000. In conjunction with this work, city intends raising grade and paving Main St. from B. & O. RR. tracks to this proposed bridge, for which $40,000 bridge and $36,000 street bonds will be issued.

Anderson, Ind.—See "Structural Steel."

Logan, Ia.—See "Structural Steel."

Galveston, Tex.—Estimated cost to construct proposed "seawall type" approach as agreed upon by Bd. Arbitrators (Frank Merritt, chmn.), to concrete causeway, plans for rehabilitation of which are being prepared by Wm. Muesser, engr., 21 Park Row, New York City, is placed at $90,000. R. M. Sias, co. engr.

Ritzville, Wash.—See "Roads and Paving."

Stafford, Ariz.—Reported Gila Valley Flour & Milling Co. plans erecting flour mill of reinforced concrete construction with elevators, to have capacity of 100,000 bu.; cost, $100,000.

Toronto, Ont.—Contract awarded Jackson-Lewis Co., 76 Adelaide St. W., at $500,000, for erecting seven factory buildings of brick and reinforced concrete for Canadian Aeroplanes Co. J. M. Lyle, archt., 19 Avondale Road.

BIDS DESIRED

Boston, Mass.—Until Feb. 26 by Metropolitan Park Comn., 18 Tremont St., for constructing bridge over Neponset River between Boston and Quincy; work includes 30,000 cu. yd. excavation, 3100 cu. yd. stone masonry, 3200 cu. yd. concrete masonry, reinforced concrete superstructure of bridge, etc.; certified check for $5,000 to accompany bid. John R. Rablin, engr.

Mt. Vernon, N. Y.—Until Feb. 28 by cities of Mt. Vernon and Yonkers and Bronx Parkway Comn., at office of latter, West Pondfield Road, Bronxville, for constructing Broad St. viaduct over Bronx River Parkway Reservation and the tracks of N. Y. Central RR. near here; viaduct to have 6 reinforced concrete arch spans from 85 to 94 ft., and with approaches will be about 750 ft. long; advertised in this issue.

New York, N. Y.—Until Feb. 15, by Park Board, Dept. Parks, Municipal Bldg., for constructing concrete bulkhead along easterly boundary of public driveway near 165th, 170th and 184th Sts.; security, $45,000.

Mont Clare, Pa.—Until Feb. 23 (extension of date) by Co. Comrs. (Daniel F. Stout, clk.) Norristown, for constructing concrete bridge over Schuylkill River.

Washington, D. C.—Until March 12, by Bureau Yards & Docks (F. R. Harris, ch.) for underground concrete oil reservoirs, piping, boilers and buildings at naval station, Gauntanamo, Cuba.

Charleston, S. C.—Until Mar. 1, for constructing 1000 ft. concrete retaining wall and for filling about 25,000 cu. yd. J. H. Dingle, city engr., advertised in this issue.

Fleming Ky.—Until Feb. 20. Acme By-Product Co., for erecting concrete tipple; cost about $20,000.

Hazard, Ky.—Until Mar. 26, by Congleton Coal Corp. for constructing concrete tipple and 50 miners' houses; cost $20,000.

Toledo, O.—Until Feb. 20, by Bert W. Posten, co. aud., for constructing 3 pony truss bridges, one slab bridge, 7 I-beam bridge, 11 reinforced concrete culverts; work includes about 14,604 cu. ft. of concrete, 157,610 ft. of reinforced steel, etc., certified check for 5 per cent to accompany bid.

Grand Rapids, Mich.—Until Mar. 8, at U. S. Engr. Office, for repairing pile substructure and constructing concrete superstructure on north revetment at St Joseph Harbor; advertised in this issue.

Kankakee, Ill.—Until Feb. 15 by Co. Comrs., Court House, for constructing reinforced concrete bridge across Kankakee River between Rockville Township, Kankakee Co., and Caster and Wesley Townships, in Will Co.; 7 spans 70 ft. each and 2 spans 68 ft. each, height over all 28 ft., about 120,460 lb. reinforcing steel, and 2933 cu. yd. concrete, cost about $43,000; for construction of approaches, cut-off channel, spandrel, fill, etc.; cost $5,000.

Pontiac, Ill.—Until about Apr. 1, by R. W. Osborn, co. supt highways, for constructing 3 reinforced spans over Vermillion River.

Milwaukee, Wis.—Until Mar. 9, by U. S. Engr. Office, for constructing reinforced concrete caisson breakwater, pile pier, dredging at Racine River, etc; advertised in this issue.

Cherokee, Ia.—Reported desired until Feb. 14 by Co. Aud. for constructing 89 concrete box culverts, 25 I-beam spans on concrete abutments, 3 concrete slabs and 6 truss spans.

San Francisco, Cal.—See "Roads and Paving."

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Brooklyn, N. Y.**—Contracts awarded Turner Constr. Co., 11 B'way, New York City, as follows: By American Can Co., 120 B'way, New York, for erecting their new Somers factory on 43d and 44th Sts. and 1st and 2d Aves., main building 6-story, 308 x 200 ft., reinforced concrete, and garage, 1-story, 174 x 109 ft., M. N. Loney, archt and engr.; by Rockwood & Co, 88 Washington Ave., Brooklyn, N. Y., for erecting 7-story, 50 x 100-ft. reinforced concrete factory at 47 Waverly Ave., Brooklyn, N. Y.

★**Newark, N. J.**—Contract awarded Essex Constr. Co., Newark, N. J., for erecting 4-story reinforced concrete, 75 x 130-ft. addition to plant of Central Dyestuff & Chemical Co. on Plum Point Lane, to cost $80,000.

Toledo, Ill.—Lowest bid received by county, Jan. 27, to construct a four 60-ft. span reinforced concrete girder bridge, on state plan, from W. H. Uhde, Greenup, Ill., at $18,000; on alternate plan, from W. C. Johnson, Belleville, Ill., at $16,000. J. A. Decker, co. highway supt.

★**Fresno, Cal.**—Contract awarded Palmer & Peterson, Monadnock Bldg., San Francisco, and Emmett Riggins, Fresno, at $138,000, for erecting 6-story brick and concrete office building at J and Mariposa Sts. for Mrs. Nellie Mason, New York City. Plumbing and heating awarded to Barrett-Hicks Co., Fresno, at $21,374; elevators to Otis Elevator Co., San Francisco, at $10,000. Eugene Mathewson, archt., Fresno.

ROADS AND PAVING

PROPOSED WORK

Maine.—See "Structural Steel."

Binghamton, N. Y.—City Council has been petitioned to pave 88,477 sq. yd. of various streets at estimated cost of $140,929 and intends issuing $25,000 bonds to pave portions of Robinson, Henry and Charlotte Sts., also Floral and Vestal Aves.

Buffalo, N. Y.—County intends improving following roads within next 2 years, from Buffalo, with federal and state aid: Along Lake Shore to Ripley; to Jamestown and Warren, Pa.; to Olean; to Bradford; to Warsaw. Geo. C. Diehl, co. engr.

Fairport, N. Y.—See "Waterworks and Sewerage Systems."

Mayville, N. Y.—County Highway Improv. Com. intends constructing with slag road from Silver Creek to Smith's Mills, 4½ miles long, in town of Hanover, also West Lake road from Brocton to the Lake road and then to Pomfret town line near Van Buren Point, 5 miles long; estimated cost of latter $2,500 to $3,000 per mile. Work will be paid for under town and county highway system agreement. Mr. Knauer, co. supt.

Rochester, N. Y.—County has had bill introduced in State Assembly to authorize construction of boulevard skirting Lake Ontario entire length of county, for which $270,000 is available; plan of J. Y. McClintock, co. supt. of highways, includes construction of bridge over Genesee River at Stutson St. to Beach Ave., and road from Beach Ave. along lake over Braddock's Bay, to Manitou Beach, and on west to county line; right-of-way for road has been donated in town of Irondequoit from Summerville to Durand-Eastman Park.

Bayonne, N. J.—City intends paving 7 streets with asphalt. Wm. P. Lee, city clk.

Camden, N. J.—Plans being prepared by Highway Dept. to pave 91,000 sq. yd. on Federal and Market Sts. with asphalt, also pave portion of Bway. with Belgian blocks.

County Comrs. intend paving Camden-Moorestown pike with asphalt on concrete base.

Newton, N. J.—Contracts will soon be awarded by county to pave with concrete Deckertown-Newton turnpike, 6 miles long.

Allentown, Pa.—Surveys being made by State Highway Dept., Harrisburg, of William Penn highway, 5 miles long, between here and Bethlehem, that construction contracts may be awarded this spring.

Harrisburg, Pa.—Arnold W. Brunner and Warren H. Manning, archts., 1 Lexington Ave., New York City, have been selected by State Bd. Pub. Bldgs. and the Grounds and City Planning Comn., to prepare plans for proposed improvement of the Capitol Park zone, which includes widening and extending of streets and construction of viaduct, 80 ft. or 100 ft. wide, over Pennsylvania RR. and Paxton Creek Valley, with archways over 10th and Cameron Sts. and covered terrace, 50 ft. wide and extending entire length of Capitol grounds, over 4th St.

Middletown, Pa.—Plans being prepared by C. S. Leftwich, boro. engr., for considerable amount of paving to be contracted for this spring.

Pittsburgh, Pa.—County Comrs. have been petitioned to improve 3½ miles of Bower Hill road, near county home at Woodville, in Mt. Lebanon Township; also McKees Rocks and Steubenville pike in Kennedy and Robinson townships.

Scranton, Pa.—Contracts will soon be awarded by city for grading, paving and curbing portion of Academy St. at estimated cost of $15,165. Ellsworth Kelly, city clk.

Smethport, Pa.—Foster Township (E. B. Sage, superv.) has agreed through supervs. to appropriate 5 per cent of cost of proposed road from Foster Brook corners to state line at Tuna; this road is one of routes in proposed 97-mile highway improvement scheme as outlined by McKean Co. Good Roads Assoc. (R. E. Burdick, member, Smethport), and now before Co. Comrs. and State Highway Dept. for their approval, for which it is expected state, county and townships will bear their proportionate share of costs.

Washington, Pa.—Estimates for road and bridge work in county this year as follows: Road maintenance, including purchase of necessary machinery, $100,000; new bridges, $30,000; painting bridges, including joint county bridge at Monongahela, $10,000; reflooring Donora bridge, $15,000; bridge repairs other than painting, $15,000. T. J. Underwood, co. controller.

West Chester, Pa.—Co. Comrs. have asked for $20,000 appropriation toward constructing road from here to Pottstown, for which state has promised $40,000 and Pottstown $10,000; West Chester and townships of Uwchlan, Upper Uwchlan and North Coventry will also share cost. In spring Supervs. of New Garden intend constructing slag road from Toughkenamon to Landenberg.

Baltimore, Md.—Baltimore Paving Comn. (R. Keith Compton, chmn.) intends paving, repaving and resurfacing after March 14 sections of 31 streets and alleys, some of streets being Smith, Rice and Booth; some of alleys being Jordan, Berkley and Lovegrove.

Georgetown, Del.—County Comrs. contemplate appropriating $1,000,000 to construct new roads.

Fairmont, W. Va.—Another election will be held to vote $650,000 Lincoln Dist. road bonds; legality of recent election at which these bonds were voted and then sold having been questioned. Tusca Morris, atty., Court House.

Asheville, N. C.—Contracts will probably be awarded by city about Feb. 20 for paving various streets with bitulithic, asphalt-concrete, asphalt, brick and durax; estimated cost $200,000; city contemplates doing all required concrete work with own labor.

Hendersonville, N. C.—F. A. Sumner, Asheville, N. C., intends constructing streets and sidewalks in Columbia Park, this place, at estimated cost of $15,000.

Marion, N. C.—Town intends spending $15,000 to improve its principal streets.

Anderson, S. C.—City will hold election Feb. 20 to vote $125,000 street paving bonds for proposed work for which bids will probably be awarded during early part of March. J. H. Godfrey, mayor.

Georgetown, S. C.—Chamber of Commerce has selected engr. to secure data for constructing proposed road from here to Morrisville station. Chamber is also securing data for constructing bridge over Sampit River and another over Santee River as part of proposed reconstruction of old Kings Highway from Charlestown through this place to Conway and on to Wilmington, N. C.; two bridges are also contemplated over Black River.

Winter Haven, Fla.—Winter Haven Special Road Dist. voted $325,000 bonds, Jan. 18, in addition to this dist.'s portion of $1,500,000 countrywide road bond issue voted some months ago. This dist.'s bond issue provides for the constructing of 47½ miles of sheet asphalt roads in 6 miles square area, connecting with main highways; county's bond issue provides for the hard surfacing of more than 200 miles of roads. Address N. C. Nydegger, engr.

Alabama.—As counties in state have signified their willingness to equal 1917 state appropriation of $157,450 for proposed road and bridge work, as well as federal 1916 and 1917 road appropriations amounting to $208,298, F. O. McManus of State Highway Dept., Montgomery, estimates there will be available $1,209,869 for government and state road work this year. He also estimates county expenditures for 1917 at one-half of those for 1916, making total probable expenditure of $3,000,000 for 1917 road and bridge work.

Benton, Ala.—Co. Bd. Revenue, Haynesville, favors constructing the 7-mile unimproved section of Selma-Montgomery highway, near here, for which $15,000 state and federal funds are available, providing Co. Comrs. appropriate $5,000 additional.

Montgomery, Ala.—City Council intends paving portions of Selma Ave. and Broad St. and has been petitioned to gravel portion of 4th Ave.

Alexandria, La.—Reported road bonds for $200,000 will be sold Feb. 28 by R. H. Jackson, pres. bd. superv., Road Dist. 12.

Baton Rouge, La.—Reported road bonds for $130,000 will be sold Feb 15 by Pres. Bd. Superv. Road Dist. No. 2, E. Baton Rouge.

Crowley, La.—Road improvements bonds for $400,000 will be sold Feb. 24; address M. S. White, engr. and surveyor.

Geismer, La.—Road bonds for $50,000 will be sold Feb. 28. State Board of Engrs., New Orleans.

Hattiesburg, Miss.—Citizens of Beats 1 and 3, Forrest Co., have voted $100,000 bonds to construct portions of Dixie and Forrest highways passing through county.

Lake Charles, La.—Estimated cost of proposed Sabine Swamp road, 2½ miles long, placed at $80,000, $30,000 of which will be contributed by State Highway Dept., New Orleans, and to pave Lake Front drive, 30 ft. wide, from Alvin to Gill St., including construction of concrete bridge, one over Pithon coulee and another over Griffith's coulee, placed at $60,000. Contracts about to be awarded by parish for graveling 2 highways, one from here to Hayes, other from Sulphur to De Quincy; gravel will be furnished by parish.

Aberdeen, Miss.—Contract will be awarded early in spring for county road work for which $40,000 bonds were voted Jan. 20 in Second Dist. G. G. Ray, clk. bd. superv.

Decatur, Miss.—County will complete construction of Mississippi Travelers' Highway through Chunky and Hickory Dists. with $120,000 recently voted. B. D. Spivey, clk. bd. superv.

Cleveland, Tenn.—Reported road bonds for $25,000 will be sold April 3 by Bradley Co. Address Co. Clk.

Greenville, Tenn.—County Court has ordered additional appropriation of $100,000 for proposed road improvements.

Canton, O.—Estimated cost of improving 5 streets, some of which will be contracted for this year, remainder next year, placed at $97,170, as follows: Paving portions of Shorb Ave., N. E., $34,025, and 3d St., N. W., $27,673; improving Arlington Ave., S. W., $11,632, and another portion of 3d St., N. W., $11,630; constructing sewer in portion of 8th St., N. E., $12,210. W. E. Sarver, city engr.

Cincinnati, O.—City Council has approved estimates of Frank S. Krug, city engr., for proposed paving of portions of Dayton Ave. with wood block, $24,165; with bitulithic, $21,015; Minion Ave. with concrete, and constructing 6-in. water main in same, $11,502.

Dayton, O.—City intends repaving portion of 3d St. with granite and setting granite curb and constructing stone sewers and appurtenances in same, at estimated cost of $63,685. John B. Harshman, city clk.

Delaware, O.—County Comrs. intend improving Rosecrans road in Kingston township and Blaney, Wilson and Roof roads in Berkshire and Kingston townships. W. V. Aldrich, co. aud.

Lima, O.—City intends paving 22 streets. B. H. Simpson, mayor.

Middletown, O.—Estimated cost of proposed paving work for 1917, including proposed pavement of 3d St., placed at $75,000 by W. C. Morrison, city engr.

Ohio.—State Highway Comn., Canton, has appropriated from $20,000 to $25,000 and Co. Comrs., Stark Co., Canton, intend appropriating equal amount to construct, probably with brick, about 2 miles of Lincoln Highway from Osnaburg toward Columbia Co. line.

Tiffin, O.—Expense to improve road 9½ miles long, from point where Wyandot-Crawford Co. line intersects Seneca Co. line, petition for which has been granted by Seneca and Crawford Co. Comrs. (Tiffin and Bucyrus, respective co. seats) will be borne, 5 per cent each, by counties and adjoining property owners and remainder by townships or private subscription. H. Keller, co. engr., Bucyrus.

Decatur, Ind.—County Comrs. have been petitioned by citizens of Blue Creek and St. Mary's townships to improve road to be known as "The Marcellus Davison and Reason Shaffer macadam road." 3 miles long and 40 ft. wide, on boundary of these townships, by draining and grading, 24 ft. wide, and paving with broken stone, 10 ft. wide and 10 in. deep in center and 8 in. deep on sides with crushed stone surface screenings 4 in. deep. John Mosure, co. aud.

Goshen, Ind.—Contracts will shortly be awarded to pave 10 miles of streets, this place. Chas. L. Kinney, surv.

Greensburg, Ind.—County Comrs. have been petitioned to grade, 24 ft. wide, drain by constructing culverts and sewers and pave with macadam, 14 ft. wide, 12 in. deep in center and 10 in. deep at sides, or pave with other material, road, 2½ miles long, in Adams township. John C. Barbe, co. aud.

Washington, Ind.—County Comrs. have petitioned to grade, drain and pave with stone, gravel or other material, road, 1½ miles long, in Washington township. J. G. Clark, co. aud.

Mason, Mich.—County intends constructing 20 miles of gravel roads and townships will construct several miles also. S. L. Hall, co. highway engr.

Niles, Mich.—Township considering election to vote $35,000 bonds to construct stone road on concrete foundation from here to Indiana state line; estimated cost of 20-ft. brick road same length as stone road on concrete foundation placed at $70,000.

St. Joseph, Mich.—County Road Comrs. have been requested to procure data and present same to Bd. Supervs. at April meeting, which will be held 2 weeks after annual election, for best plan to construct proposed road work with $500,000 maximum bond issue. A. E. Houseworth, superv., Bertrand.

St. Johns, Mich.—County contemplates constructing road, 6.5 miles long, between Essex Township and Fowler-St. Johns road.

Chicago, Ill.—County Court (Judge Pond presiding) has authorized proposed widening of Michigan Ave. at estimated cost of $10,000,000. Michael J. Faherty, pres. bd. local improv.

Macomb, Ill.—County and townships intend oiling during this summer 50 miles of roads. W. M. Bonham, co. highway supt.

Mattoon, Ill.—Contracts will be awarded by county, this spring, for paving 2 miles with brick. H. L. Shinn, co. supt. highways.

Mt. Carroll, Ill. — County contemplates $750,000 bond issue for proposed construction of permanent highway system.

Onarga, Ill.—Estimated cost of proposed paving work in village placed at $41,610.

Oregon, Ill.—Co. Comrs. intend constructing at least 3 miles of Lincoln Highway with concrete, using county's apportionment of 1917 state aid funds.

Appleton, Wis.—Contracts about to be let by county for constructing about 45 miles of concrete roads. This is continuation of work started with $700,000 bonds voted last year.

Kenosha, Wis.—County voted $185,000 road bonds at special election for proposed work. Russell Jones, co. aud.

Oshkosh, Wis.—City intends paving about 2 miles of streets. Dan. Witzel, city clk.

River Falls, Wis.—City intends selling $45,000 bonds for proposed paving of Main St.

Des Moines, Ia.—Plans being prepared by F. N. Carss, city engr., to pave portion of 6th St. and widen same to 40 ft.; also to pave portion of High St. and widen same to 42 ft.

Muscatine, Ia.—Estimated cost to construct new county roads placed at $25,000; to complete present roads, $20,000. G. Halbfass, co. engr.

Henderson, Minn.—County intends constructing high water road on west side of river, between here and Le Sueur.

Minneapolis, Minn.—City contemplates paving portion of Franklin Ave. at estimated cost of $200,000, which will be financed by bond issue.

New Ulm, Minn.—County intends spending $38,000 this year on state roads and bridges. C. N. Robertson, highway engr.

St. Paul, Minn.—City intends paving portions of Lombard and Laurel Aves.; also repaving portion of Minnesota St. and York St.

St. Peter, Minn.—County intends grading and graveling roads at estimated cost of $27,000. H. W. Daniels, highway engr. and co. surv.

Beloit, Kan.—City Council has received petitions to pave 16 blocks of streets. A. E. Holmes, city engr.

Council Grove, Kan.—County will probably spend $15,000 for proposed grading work and $10,000 for proposed bridge work, this year.

Herington, Kan.—City contemplates paving with concrete or asphaltic concrete 14 blocks.

Pratt, Kan.—City estimates cost of proposed paving work and other improvements at $150,000.

Lebanon, Mo.—County intends constructing 50 miles of roads. R. Blickensderfer, co. surv.

Albany, Tex.—County will hold election Feb. 15 to vote $100,000 bonds to construct proposed roads. Address Co. Judge.

Amarillo, Tex.—City will hold election Feb. 15 to vote $75,000 for park improvements and $50,000 for paving work.

Bryan, Tex.—Estimated cost of proposed street paving in city placed at $33,000; includes paving portions of Lamar, Monroe and Ennis Sts.

Dallas, Tex.—City Comrs. intend paving portions of Magnolia, Crockett and Boll Sts. with bitulithic; Reagan St with vibrolithic; McKinney St. with Trinidad Lake asphaltic concrete.

Park Board has decided to construct Turtle Creek Parkway through Oak Lawn Park on north side of lake, following for some part original route as designed some time ago by Geo. E. Kessler, landscape engr. Park Board is also considering improving Oak Lawn Park and officials of the State Fair of Texas, representing Fair Park, intend improving this park. Henry D. Lindsley, mayor.

Dallas, Tex.—County Comrs. considering submission to voters at election to be held early in spring, $1,000,000 bond issue to pave with concrete and macadam principal roads. Recent authorized $500,000 bond issue is pledged for constructing certain overflow roads.

El Paso, Tex.—Estimated cost of proposed county road and bridge improvements placed at $450,000, of which largest are: Paving 7½ miles of Socorro-Clint road, $100,000; resurfacing El Paso-Ysleta road, $175,000. E. B. McClintock, co. judge.

Roby, Tex.—County will hold election Feb. 17 to vote $100,000 good road bonds.

Waco, Tex.—City intends holding election in near future to vote $25,000 for proposed street improvements, principal one being South 5th St., paving of which is estimated to cost $16,125 by G. B. Gurley, city engr.

Ardmore, Okla.—County voted $200,000 road bonds at recent election. Shelton W. Tyer, co. clk.

Muskogee, Okla.—County will hold election March 6 to vote $1,000,000 bonds for constructing proposed roads and bridges.

Okemah, Okla.—County Comrs. have been petitioned to hold election to vote $175,000 bonds for proposed road improvements.

Okmulgee, Okla.—County sold $800,000 good road bonds for which bids were received Dec. 15.

Sapulpa, Okla.—County has $225,000 with which to construct new roads and bridges this year; estimated cost to pave, probably with concrete, proposed road which is now being graded, between here and Tulsa, placed at $72,000. C. E. Brinckley, co. engr.

Chehalis, Wash.—Estimated cost to pave portion of Cascade Ave. placed at $11,000. J. E. Murray, city atty.

Cheney, Wash.—County Comrs. have been petitioned to construct permanent highway from here to the south co. line; estimated cost $150,000. A. R. Scott, co. engr., Spokane.

Ritzville, Wash.—County intends graveling 5½ miles of permanent highway at estimated cost of $16,000; also constructing 19 small span steel and concrete bridges, 20 ft. wide, with 100 lb. per sq. ft. capacity, on concrete foundations. O. J. Despain, co. engr.

Spokane, Wash.—Estimated cost of proposed raising of grade on Trent Ave between the 2 city bridges placed at $25,000 to $30,000. F. W. Guilbert, secy., Spokane Co. Good Roads Assoc.

Seattle, Wash.—Bd. Pub. Wks. (C. B. Bagley, secy.) intends paving Latona Ave. and 2d Ave. N. E. at estimated cost of $75,000; portions of Occidental Ave., Atlantic, Massachusetts and Holgate Sts., total $68,143; portions of 5th and 6th Aves. S., Maynard Ave. and 7th Ave. S., and King, Weller and Lane Sts., total $138,929. A. H. Dimock, city engr.

Tacoma, Wash.—County intends paving 6 miles on Mountain road, 3 miles each side of Ashford, from here to Mt. Rainier; also Tacoma-Bremerton Waterfront highway, estimated cost of which, surveys now being completed by David H. White, co. engr., placed at $60,000. Thos. N. Norris, co. aud.

Coquille, Ore.—Contracts will probably be awarded by county (J. R. Watson, co judge) about April 1 for road work estimated at $311,000; largest contract, $65,000, being on Coquille-Marshfield road. C. S. McCulloch, co. surv.

McMinnville, Ore.—City will hold special election March 20 to vote $90,000 bonds for proposed city improvements. A. C. Chandler, city recorder.

Marsfield, Ore.—City intends paving 26,000 sq. yd. on Central Ave. with 2-in. bituminous macadam on 6-in. concrete base for distance of 3000 lin. ft.; contract will include construction of concrete sidewalks, 12 ft. wide, for 4 blocks on each side of street and remaining sidewalks will be constructed 6 ft. wide. Additional proposed paving with bituminous macadam on concrete base includes paving B'way, 36 ft. wide, and constructing 12-ft. concrete sidewalks for distance of 2000 lin. ft.; also paving 1500 lin ft. on 6th St. South and portions of 4 other streets. L. F. Heuperman, city engr.

New Era, Ore.—State Highway Dept., Salem, has appropriated $15,000 toward paving costs of proposed road work between here and Canamah, on Pacific Highway. Iva M. Harrington, co. clk., Oregon City.

Portland, Ore.—Plans being prepared by Philip H. Dater, city engr., to pave streets in Hawthorne Park Dist. A. L. Barbour, city aud.

Salem, Ore.—Three largest paving jobs which city has now under consideration for paving with asphaltic concrete this year are: 15,522 sq. yd. on North 5th St.; 15,000 sq. yd. on Commercial St. with 2-in. surfacing on old macadam; 11,500 sq. yd. on Church St. with 1½-in. surfacing on 4½-in. black base. Walter Skelton, city engr.

The Dalles, Ore.—"Mosier" unit will be first of proposed road work that county will contract for this year; estimated cost $125,000. A. W. Mohr, co. surv.

California.—State Highway Dept., Sacramento, intends constructing 6 miles of Lincoln Highway adjacent to Nevada state line at estimated cost of $75,000, for which bill appropriating this amount will be introduced in coming session of state legislature.

San Francisco, Cal.—Bills have been introduced in upper house of state senate by R. J. Welch, superv., San Francisco, to consolidate counties of San Francisco, San Mateo, Santa Clara and Santa Cruz into one road dist. and to appropriate $150,000 toward constructing skyline motor boulevard from San Francisco to Santa Cruz, estimated by M. M. O'Shaughnessy, city engr., San Francisco, at $600,000, for which federal aid is expected.

Santa Barbara, Cal.—Contracts will soon be awarded by city to pave portion of Anacapa St. with 2-in. asphalt on 6-in. concrete and construct stone and concrete curbs and gutters and reinforced concrete culverts in same; also pave portion of Olive Ave. with 4-in. concrete and construct cement curbs, 5 concrete catch basins, reinforced concrete culverts and 6-in. vitrified sewer pipe in same. A. Christine Hall, city clk.

Visalia, Cal.—County will hold election March 7 to vote $2,200,000 bonds to construct 170 miles of concrete highways.

Nogales, Ariz.—City Council intends paving at early date practically all city's streets. H. G. Glore, city engr.

Salt Lake City, Utah.—Estimated cost of proposed street improvements as recommended by Sylvester Q. Cannon, city engr., placed at $1,032,405; largest jobs being: paving portions of 8th South and 4th West Sts., $107,985; 7th East and 7th South Sts., $105,927; 9th South St., $78,985; curb and gutter portions of I, J and K Sts., $27,000.

BIDS DESIRED

Belleville, N. J.—Until Feb. 13 by Town Comrs. (R. G. Minion, clk.) for constructing sidewalks, curbs and gutters and for furnishing broken stone for year 1917.

Flemington, N. J.—Until Feb. 15 by County Freeholders for paving road from New Germantown to Lamington, about 1¼ miles, with macadam.

Passaic, N. J.—Until Feb. 14 by Bd. Freeholders (Goerge W. Botbyl, clk.) for furnishing a 10-ton road roller.

Trenton, N. J.—Until Feb. 13 by Bd. Freeholders (William P. Conard, dir.) for furnishing and applying about 65,300 gal. tar to Yardville-Newtown-Windsor Road and portions of White Horse-Bordentown and other roads; certified check for $500 to accompany bid.

Harrisburg, Pa.—Until Feb. 14, by State Highway Dept. (F. B. Black, comr.), for furnishing dept, with corrugated culvert pipe to be used in maintenance work.

Meadville, Pa.—Until Feb. 19 by Fred C. Kiebort, city clk., for paving 28 streets, quantity about 71,000 sq. yd , and 45,000 lin. ft. combined curb and gutter alternate bids on brick and reinforced concrete wearing surfaces advertised in this issue.

Baltimore, Md.—Until Feb. 15, by State Road Comn. (Frank H. Zouck, dir.), for oiling six sections of road requiring about 1,254,499 gal. oil advertised in this issue.

Richmond, Va.—Reported desired until Feb. 16 for paving several alleys. C. E. Bolling, city engr.

Wellsburg, W. Va.—Until Mar. 1, by County Court for paving Route 10-11, Hulkills and Huff Run Road; length 4.5; Route 1, Section 1, River Road (in Wellsburg), brick on concrete base and concrete construction; length ¾ mile. Chestnut Heights, 1.3 miles with monolithic brick concrete and asphaltic concrete; Route No. 10, Beech Bottom Hill, with water bound macadam, length 1 mile. C. A. Heichelberger, co. engr., Wells King.

Roanoke, Ala.—Until March 1 by W. L. Hill, city clk., for 10,400 sq. yd. street paving; advertised in this issue.

Geismar, La.—Until Feb. 28 for constructing 30 miles of gravel roads in Dist. No. 2, Ascension Parish; plans may be obtained from State Bd. Engrs., New Orleans.

Olive Hill, Ky.—Until Mar. 20 (new date) by City Comrs., for street improvements during 1917, expenditure $40,000.

Hyden, Ky.—Until Mar 24, by town for improving streets; expenditure $40,000; address Mayor.

Jamestown, Ky.—Until Mar. 23 (new date) for road work in county; address Fiscal Court, Russell Co.

Wayland, Ky.—Until Mar. 24, by Town for improving streets; cost about $30,000.

Cincinnati, O.—Until Feb. 16 by Ernst Von Bargen, city purch. agt., City Hall, for furnishing about 40,000 gal. paving pitch,, delivery to be made in double-headed barrels, in lots of 10 bbl. or more as ordered for use as filler in brick and granite pavement.

Cincinnati O.—Until Feb. 15, by Chas. F. Hornberger, dir. pub. serv., for paving portions of Basset Road and Beech Ave., plans may be obtained from Chief Engr., Dept. pub. serv.

Columbus, O.—Reported desired until Feb. 13 for paving with brick and grading. Address G. A. Borden, dir. pub. serv.

Kalamazoo, Mich.—Until Feb. 19, by Bd. Co. Road Comrs. (Glendon A. Richards, pres.) for 14,800 ft. trunk line road to be 16 ft. wide of cement concrete or asphaltic concrete laid on cement concrete base; about 11,600 cu. yd. grading; plans may be obtained from J. J. Campbell, co. clk. W. S. Moore, city engr.

Cambridge, Ill.—Until Feb. 14 by village (J. M. Pratt, pres.) for 6050 sq. yd. paving on 5-in. concrete base, asphaltic filler cost about $14,127; plans may be obtained from H. G. Stokes, Kewanee, or from village pres.

Streator, Ill.—Until Feb 15 by Bd. Imp. for paving Bronson and Wasson Sts. with Dunn lug brick on 4-in. concrete foundation; work includes about 5900 cu. yd. excavation, 16,200 sq. yd. pavement, 14,500 ft. sandstone curb; cost about $40,000. F. H. Renz, city engr.

West Frankfort, Ill.—Until about Feb 26 by Arch. Jones, mayor, for constructing 34,600 sq. yd. paving with plain and reinforced concrete on Main and Anna Sts., 13,700 ft. straight and integral concrete curb; cost about $79,600. P. B. Wilson, engr., Marion, Ill.

St. Paul, Minn.—Until Feb. 13, by H. W. Austin, purch. agt., City Hall, for paving portions of Rice St., Grand, Como and Prior Aves., and Mounds Blvd. and Mississippi River Blvd., also for constructing sewers in portions of Arch St. and Hamline Ave.

Until Feb. 19, by H. W. Austin, purch, agt., for paving and repairing portions of Robert and 8th Sts., also for constructing sewer in portions of Bear, Lexington Aves., Saratoga and Hatch Sts.

Kearney, Neb.—Until Feb. 19 by Mayor and Council (T. N. Hartzell, city clk) for paving Paving Dists. Nos. 21, 22, 23; following material to be used: One course concrete, 6 in.; one course concrete, 7 in. center and 6 in. sides; two course concrete cement, 5 in and 2 in., vertical fiber brick with concrete base and asphalt filling; cost about $10,200.

Madison, S. D.—Reported desired until Feb. 19 by Wm. Rae, city aud., for paving portions of various streets. Chas. A. Trimmer, engr.

Great Falls, Mont—Reported desired until Feb. 24, by W. H. Harrison, city clerk, for constructing sidewalks, curbing and concrete crossings; certified check for 10 per cent to accompany bid.

Everett, Wash.—Until Feb. 19 by Mae Weatherbee, co. aud., for hardsurfacing bond issue, Proposition No. 10, cost about $50,000. W. C. Bickford, co. engr.

San Francisco, Cal.—Reported desired until Feb. 25 at office of Constr. Quartermaster Ft. Mason for constructing 6000 ft. of boulevard and reinforced concrete viaduct 180 ft. long across Lobos Creek; cost $30,000.

Wallace, Idaho.—Until Feb. 26 by City Council for paving remaining portion of business and residential districts; different kinds of paving called for with estimates of City Engr. R. S. Merriam are as follows: Standard bithulithic, 4-in. macadam base, $78,522; standard bithulithic, 3-in. madacam base, same amount; concrete $9,316; Hassam, $117,153; El Oso asphaltic concrete, 4-in. macadam base, $78,522; on 3-in. base, $75,291; wood blocks, $154,693; certified check for 10 per cent to accompany bid; bond for $25,000 to keep paving in repair for 5 years.

London, Ont.—Until Feb. 14 by Chmn. Bd. Control, at office of City Clk , for furnishing 100,000 gal. road oil and liquid asphalt. H. A. Brazier, city engr.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Annapolis, Md.**—Contract awarded by county (bids opened Jan. 30) to F. M. Duvall, Annapolis, Md., at $12,546, to construct about 1 1/3 miles of state-aid highway. E. T. Hayman, road engr.

★**Baltimore Md.**—Contract awarded Jan. 25 by Bd. Awards for street repair work during 1917 as follows: To Baltimore Asphalt & Tile Co., Monroe and Lorman Sts., at $107,375, where extensive repairs are necessary to use sheet asphalt, otherwise asphalt or granite blocks is permissible; to Westport Paving Brick Co., Westport, Md., to repair vitrified brick streets, and to Hudson Cement & Supply Co , 207 St. Paul St., to repair wood block paving. Jas. H. Preston, mayor.

★**Maryland.**—Contracts awarded by State Roads Comn., Baltimore (bids opened Jan. 23) for paving with concrete road 1.22 miles long, from near Rising Sun to Sylmar, Cecil Co., to E. R. Sutton, 603 N. 6th St., Philadelphia, Pa., at $18,822, and for section of road 0.72 mile long through East New Market, Dorchester Co., to Phillips & Neals, Hurlock, Md., at $10,502.

★**Kissimmee, Fla.**—Contract awarded by county (bids opened Jan. 15) to Georgia Eng. Co., Augusta, Ga., at $64,910, to pave 6 miles of Kissimmee-St. Cloud road with vitrified brick and construct concrete curbs.

★**Lakeland, Fla.**—Contract awarded by city (bids opened Jan. 20) to Alabama Paving Co., Birmingham, Ala., at $176, to pave 12 miles of streets with sheet asphalt. J. W. Turner, engr.

★**Lake Charles, La.**—Contracts awarded by city (bids opened Jan. 25) to Ritchie Bros., Topeka, Kan., at $2.25 per sq. yd. for paving two streets with brick, and to De Jersey & Naff, Opelousas, La., at $1.80 per sq. yd. for paving one street with vibrolithic, and at $1.90 per sq. yd for paving another street with reinforced concrete; total surface to be paved 12,000 sq. yd. Andrew Cook, city clk.

★**Rogersville, Tenn.**—Contract awarded by county to Newell Contr. Co., Birmingham, Ala., for grading and macadamizing 125 miles of road. S. C. Cornwell, ch. engr. co. pike comrs.

★**Indianapolis, Ind.**—Contract awarded by county Jan. 23 to C. M. Dale Co., Lebanon, Ind., at $14,700, to macadamize 2 miles of E. J. Starkey road in Pike Township. Next bidder was Layne Bros., Crawfordsville, Ind., at $14,900.

★**Grundy Center, Ia.**—Contract awarded by city (bids opened Jan 8) to Ford Paving Co., Cedar Rapids, Ia., at $98,668, to pave 42 blocks with bitulithic.

★**Gillespie, Ill.**—Following are four lowest bids opened Jan. 24 by city for brick paving work: Sell & Kohler, Pana, Ill., $27,980 (awarded contract); Chas. H. Degenhardt, $28,077; Steubel & Helmick, $28,481; both of Alton, Ill.; McBride & Worgensted, Carlinville, Ill., $29,004. S. T. Morse, engr., Carlinville Ill.

★**Kansas City, Mo.**—Contract awarded by Bd. Pub. Wks. (J. P. Kane, secy.), to Missouri Sidewalk & Constr. Co., 210 Mass Bldg., Kansas City, Mo., for constructing concrete pavement on Dauphin Ave., Hoe and other streets.

Bartlesville, Okla.—Contract will probably be awarded by city (bids opened Jan. 29) to Wheeler, Keheler & Co., Hutchinson, Kan., for paving 26,000 sq. yd. of concrete pavement. E. D. Kirkpatrick, city engr.

Everett, Wash.—Following bids were received by county (Mae Weatherbee, aud.) to pave Bond Road No. 5 with concrete: Atlas Constr. Co., $28,184; J. W. Hoover, $29,382; Grant & Ervig, $29,974; Bancroft & Morgan, $31,136; all of Everett. W. C. Bickford, co. engr.

★**San Francisco, Cal.**—Contracts awarded by city to Fay Improv. Co., Phelan Bldg., at $17,769 and $17,023 respectively to pave 5 and 3 blocks on Irving St.; also to Ransome-Crummey Co., Hobart Bldg., at $14,468 and $17,731 respectively to pave Newcomb Ave. and 4 blocks on Irving St.

RAILWAYS
Steam and Electric

PROPOSED WORK

Boston, Mass.—Finance Comn. reported to have recommended that City Council grant permission to New York, New Haven & Hartford R.R. Co. (Edw. Gagel, ch. engr., New Haven, Conn.) to widen its freight cut through South Boston, to provide for 4 tracks instead of 2 and close W. 1st St. to traffic, contingent upon railroads paying the entire cost of necessary grading and building all South Boston bridges affected by change, upon the roads providing the most modern of roadbed ballast to reduce the noise and jarring, etc.

New Britain, Conn.—Stanley Ry. Co. has applied for incorporation to construct electric railway between New Britain and Hartford; capital $100,000. Incorporators, E. O. Kilbourne of New Britain and J. A. Pilgard, Hartford, and others.

Yonkers, N. Y.—New York Central RR. Co. (G. W. Kittridge, ch. engr., New York) plans elimination of Dunwoodie grade crossings

Farmingdale, N. J.—Civic Development Co. has been incorporated to build a trolley road, with $50,000, by Wm. J. Lansley, Farmingdale; Clarence Hodson, Newark; L. C. Tompkins, Morristown.

Keyport, N. J.—Central Jersey Traction Co. has been incorporated to operate street railway; capital $900,000. Incorporators, Francis A. Carter, Jas. F. Shrader, Logan B. Gill, Philadelphia.

Baltimore, Md.—Pennsylvania RR. Co. (Alex. C. Shand, ch. engr., Philadelphia, Pa.) has submitted to Council plans for enlarging terminals in center of city, including construction of tunnel under Laurens St. and to double capacity of Hoffman St. tunnel and approaches, enlargement of present freight building, new warehouses, laying additional tracks in freight yards, bridges over Calvert St., etc. Total cost of improvements $12,000,000.

★Under plan of consolidating properties of Western Maryland Ry. and completion of its financial plans just sanctioned by Pub. Service Comn., the company will spend about $1,000,000 in improvements, including double tracking 9 miles of line between Hagerstown and Highlands.

Andrews, S. C.—Press reports Seaboard Air Line Ry. (W. D. Faucette, ch. engr., Norfolk, Va.) plans expenditure of $200,000 for improvements here.

Florence, S. C.—Atlantic Coast Line RR. Co. (J. E. Willoughby, ch. engr., Wilmington, N. C.) considering double tracking line from Florence to Lanes.

Columbus, Ga.—Cental of Georgia Ry. Co. (C. K. Lawrence, ch. engr., Savannah) will spend about $250,000 during 1917 in extensions to shops and other improvements.

Elberton, Ga.—Elberton & Eastern RR. Co. (J. S. Crews, recorder) is to apply to State RR. Comn. for permission to issue bonds, and it is said that they may be used to extend road to Washington, Lincolnton or Augusta.

Ashville, Tenn.—Reported Southern Ry. Co. (B. Herman, ch. engr., Washington, D. C.) will spend $5,000,000 in improvements, including double tracking for 72 miles from Leadvale to Craggy on the Knoxville-Ashville line; this will provide double track all the way from Knoxville to Ashville, a distance of 125 miles.

Cleveland, O.—City Council reported to be considering elimination of grade crossings in the city; cost about $5,000,000.

Anderson, Ind.—Pennsylvania RR. Co. (Alex. C. Shand, ch. engr., Philadelphia, Pa.) reported considering construction of double track through Anderson and widening 9th St. tunnel.

Fort Wayne, Ind.—Wabash Ry. Co. and Pennsylvania RR. Co. (Alex. C. Shand, ch. engr., Philadelphia, Pa.) considering plans for track elevation in Ft. Wayne.

Chippewa Falls, Wis.—Reported the Minneapolis, St. Paul & Sault Ste. Marie RR. (C. N. Kalk, ch. engr., Minneapolis, Minn.) will build cutoff at Chippewa Falls the coming summer.

Milwaukee, Wis.—Chicago & North Western Ry. Co. (W. H. Finley, ch. engr., Chicago, ill.) reported considering elevation of tracks on its Madison division from Chicago Ave to First Ave, and depress them from there to a point west of Forest Home Ave.; the roadway at First Ave. is to be elevated above tracks, while bridges are to be provided at Midland, 8th, 15th, 22d, 24th and Forest Home Aves., a foot bridge at 26th Ave. crossing; total cost of improvement, $1,500,000. City share about $150,000.

Duluth, Minn.—Minneapolis, St. Paul & Sault Ste. Marie R.R. (C. N. Kalk, ch. engr., Minneapolis, Minn.), contemplates construction of a through line from here to Winnipeg, going through Bemidji.

Dallas, Tex.—E. P. Turner is promoter of Dallas Northwestern Traction Co., which proposes constructing electric railway from Dallas to Slidell.

Waco, Tex.—Committee and Chamber of Commerce of Waco, Beaumont, Trinity, Grayburg and other intermediate points considering building the Waco-Beaumont RR. J. A. Frates of Tulsa, Okla., is reported interested.

Enid, Okla.—J. A. Frates of Tulsa, pres. Oil Fields Short Line, interested in building railroad east from Enid through Hoy-Champlin and Hoover oil and gas fields to some point north and east not yet decided upon.

Roswell, N. M.—Lubbock & Great Northern Ry. Co., represented by M. Y. Mossip, reported considering construction of railroad from Roswell to El Paso.

Coquille, Ore.—Coos Co. court has granted a franchise to the North Bend Mill & Lumber Co. to construct 14-mile logging railroad up Davis Slough; line will be built by H. A. Belka, in employ of lumber company.

Portland, Ore.—J. H. Fitzgerald, gen. mgr., Portland & West Coast RR. & Navigation Co., reports construction of railroad between Portland and Newport, a distance of 112¼ miles, will begin this year.

Amboy, Cal.—See "Industrials."

Phoenix, Ariz.—Arizona Eastern RR. Co. (C. M. Scott, supt.) plans constructing standard gage line from Casaba to Gila River crossing, Phoenix-Maricopa line, a distance of 7 miles; cost about $100,000.

Provo, Utah.—Utah-Idaho Sugar Co., Vermont Bldg., Salt Lake City, decided to build railroad through the districts of Palmyra, Lake Shore and Benjamin for convenience of beet growers; road will be about 12 miles long and cost about $100,000.

Boise, Idaho.—H. V. Platt, vice-pres. and gen. mgr., Oregon Short Line Ry. Co., Salt Lake City, reports that arrangements had been completed for constructing a direct line to the Utah coal fields.

Boise, Twin Falls & Nevada RR. Co. filed articles of incorporation, capital $3,000,000, for constructing railroad 90 miles long from here to Bruneau Valley $1,000 a mile for 9 miles has been subscribed. Incorporators, David Miller, Kansas City; W. E. Pierce and J. H. Richards, Boise. Road is to be either steam or electric, according to provisions of the charter.

Nampa, Idaho.—Reported Oregon Short Line Co. (H. V. Platt, vice-pres. and gen. mgr.) will spend $50,000 here for improving local yards and constructing coal chutes, etc.

Pocatello, Idaho.—Oregon Short Line (Carl Stradley, ch. engr., Salt Lake City, Utah) will lay about 135 miles of new tracks and construct subway from power house to Bridger St. and another subway at stock yards crossing and enlarge local shops.

Toronto, Ont.—Reported that the Canadian Northern Ry. (A. F. Stewart, ch. engr.) is about to construct a railway from Toronto to Niagara frontier to cost about $7,000,000.

Edmonton, Alta.—See "Industrials."

BIDS DESIRED

Oklahoma, Okla.—See "Structural Steel."

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK

Elizabeth, N. J.—Reported Wallace Downey, 44 Whitehall St., New York, N. Y., has purchased 16-acre site on Kill von Kull and will erect steel shipbuilding plant to cost about $3,000,000.

Allentown, Pa.—Reported Allentown Merchants' Ice Co. plans erecting 5000-ton plant on site recently acquired adjoining present plant.

Chester, Pa.—Reported Consumers Ice & Coal Co. plans erecting new ice plant on Delaware River; cost about $80,000.

Baltimore, Md.—Plans being prepared by Western Maryland Railway Co., Hillen Station, engineers for erecting roundhouse and turntable at Port Covington, to cost $150,000.

Baltimore, Md.—Reported American Refractories Co., Joliet, Ill., will erect plant here to cost $100,000.

Richmond, Va.—Reported British-American Tobacco Co. plans erecting addition to its large cigarette factory on Perry St., to cost $50,000.

Fairmont, W. Va.—Reported Monongahela Power Co., a $200,000 concern, has purchased 150-acre site just opposite Rivesville, in Winfield district, on which to erect plant to manufacture permissible powder.

Hartland, W. Va.—Hartland Power Co. (W. S. Barstow & Co., engrs. and mgrs., 50 Pine St., New York City) recently organized with a capital of $2,000,000, contemplates constructing electric generating station, installing a 1000-kw. condensing steam turbine, developing 1350 hp. and constructing 5-mile, 13,200-volt transmission line.

Macon, Ga.—Contract will soon be let for erecting $1,000,000 packing plant for Acme Ice & Bottling Co., of which Alec Block is head.

Birmingham, Ala.—Plans being prepared by Stockham Pipe & Fitting Co. for constructing plant at 40th St. and 10th Ave., to cost $200,000.

Cincinnati, O.—Reported George H. Strietmann Sons Co., 12th and Plum Sts., bakers, will erect combination storage house and garage at 14th and Plum Sts., to cost about $60,000.

Contract will soon be awarded by H. W. Cordes, archt., 722 Union Trust Bldg., for erecting 2½-story fireproof plant for Globe Folding Box Co. at Mitchell Ave. and C. H. & D. Railroad.

Columbus, O.—Reported Federal Chemical Co., Columbus Bldg., Louisville, Ky., will erect plant here north of Bonham Ave. and adjoining C. A. & C. RR., to cost $125,000.

Detroit, Mich.—Reported H. C. Roberts Storage and Transfer Co. will erect 5-story fireproof warehouse to cost $80,000. Plans being prepared by Moores & Dunford, 10 S. La Salle St., Chicago, Ill.

Murphysboro, Ill.—Reported Mr. Harrison, Attica, Ind., will erect steel plant here in spring to cost about $250,000.

Black River Falls, Wis.—Reported United Clothes Mfg. Co. will erect $60,000 plant soon.

Fort Dodge, Ia.—Reported Bardy Transfer & Storage Co., 10 S. 8th St., plans erecting warehouse to cost $75,000.

St. Paul, Minn.—Reported St. Paul Gas Light Co., 6th and Cedar Sts., will erect $1,000,000 electrical power plant on upper levee.

St. Paul, Minn.—Reported Twin Cities Wholesale Grocery Co., 409 Sibley St., will erect warehouse to cost $60,000.

Omaha, Neb.—Reported Syndicate being formed for erecting warehouse: to cost $300,000. H. H. Baldridge, 5000 First Nat'l Bank Bldg., Omaha, reported interested.

Dallas, Tex.—Reported Edwin B. Dodgett will erect 4-story, 100 x 100-ft. merchandise warehouse at N. E. corner of Griffin and Ashland Sts., to cost $50,000.

Fort Worth, Tex.—Reported Gulf, Colorado & Santa Fe Railway (F. Merritt, ch. engr., Galveston, Tex.) will erect freight depot here, which will embody cold storage and refrigerating plant; cost $100,000.

Houston, Tex.—Following are totals and unit figures of three bids opened Jan. 22, for erecting 3-story reinforced concrete Municipal Warehouse on Houston Ship Channel: (a) The Holmboe Co., Oklahoma City, $484,141; (b) Horton and Horton, Houston, $496,-600; (c) American Constr. Co., Houston, $499,864. (J. C. McVea, city engr.)

	(a)	(b)	(c)
Bldg. comp. less exc.	$460,830.00	$473,570.00	$467,000.00
Denison tile instead of brick	+1,700.00	—955.00	+5,000.00
Galv. iron instead of copper	—725.00	—520.00	—900.00
Alternate concrete system	—8,800.00	—1,400.00	No bid
2,000 cu. yd. excavation, class No. 1	.27	.25	.40
4,000 cu. yd. excavation, class No. 2	.55	.90	1.00
1,000 cu. yd. loading excavation on cars	.22	.10	.35
400 lin. ft. concrete piling, 20 ft. long	1.50	1.00	1.50
500 lin. ft. concrete piling, 25 ft. long	1.30	1.00	1.35
560 lin. ft. concrete piling, 28 ft. long	1.30	1.00	1.25
600 lin. ft. concrete piling, 30 ft. long	1.25	1.00	1.25
640 lin. ft. concrete piling, 32 ft. long	1.25	1.00	1.25
100 cu. yd. concrete, class No. 1	5.55	5.12	7.50
100 cu. yd concrete, class No. 2	5.65	5.53	8.00
100 cu. yd. concrete, class No. 3	5.95	6.04	11.00
100 cu. yd. concrete, class No. 4	5.80	6.00	8.50
100 cu. yd. concrete, class No. 5	6.50	6.00	11.50
100 cu. yd. concrete, class No. 6	8.65	7.00	15.00
10,000 lb. new billet steel	.043	.045	.075
10,000 lb. re-rolled steel	.041	.04	.07
2,000 lb. cast iron	.0475	.06	.06
2,000 lb. sundry iron bolts, etc.	.05	.10	.10
1,000 sq. ft. floor finish	.0525	.06	.08
10,000 sq. ft. forms for flat slab	.065	.06	.12
10,000 sq. ft. forms for walls	.075	.06	.11
10,000 sq. ft. forms for beams, etc.	.08	.07	.13
5,000 sq. ft. forms for columns and caps	.10	.10	.15
5,000 M. face brick	39.00	60.00	55.00
5,000 M. dry pressed brick	22.50	22.00	25.00
5,000 lb. structural steel	.055	.06	.095
10 square roofing	4.15	4.00	4.50
500 lb. flashing	.15	.16	.15
10 M. B. M. dimension lumber	55.00	30.00	35.00
1,000 lb. metal lath	.05	.12	.70
10 sq. ft. plastering concrete	6.60	7.00	5.50
100 lin. ft. corner beads	.045	.10	.12
100 lin. ft. cast iron water pipe, 4"	.80	.75	1.00
100 lin. ft. cast iron water pipe, 6"	1.05	1.10	1.25
100 lin. ft. cast iron water pipe, 8"	1.30	1.60	2.00
100 lin. ft. galv. wrought iron water pipe, 1½"	.28	.30	.32
100 lin. ft. galv. wrought iron water pipe, 2"	.40	.40	.42
100 lin. ft. galv. wrought iron water pipe, 3"	.84	.80	.85
100 lin. ft. cast iron soil pipe, 6"	.54	.50	.60
100 lin. ft. cast iron soil pipe, 4"	.39	.38	.48
100 lin. ft. sewer pipe, 6"	.25	.18	.40
100 lin. ft. sewer pipe, 8"	.35	.28	.49
100 lin. ft. sewer pipe, 10"	.45	.38	.60
100 lin. ft. sewer pipe, 12"	.55	.50	.75
100 lin. ft. sewer pipe, 15"	.95	.79	1.00
100 lin. ft. sewer pipe, 18"	1.30	1.05	1.25
100 lin. ft. sewer pipe, 24"	1.80	1.80	1.90
10 each inlet, type "B"	45.00	22.50	28.00
1,000 man hour labor, unskilled	.275	.40	.35
1,000 man hour labor, carpenter	.70	.65	.85
1,000 man hour labor, structural iron	.70	.60	1.00
1,000 man hour labor, plasterer	.70	.60	1.10
1,000 man hour labor, bricklayer	.90	.95	1.10
1,000 man hour labor, painter	.65	.60	.85
1,000 man hour labor, electrician	.80	.70	1.00
2,000 team hour, teams	.55	.60	.80

Bids received by above, same date, for eight electric freight elevators for warehouse and wharf No. 4, were as follows: (a) A. Kieckhefer & Co. Milwaukee, $48,367; (b) Otis Elevator Co., Houston, $51,280.

Houston, Tex.—Reported Harbor Bd. and City Council have decided not to erect Municipal Warehouse, as cost is much more than planned. New plans involving smaller expenditure will be prepared. E. E. Sands, city engr.

Port Arthur, Tex.—Reported Stone & Webster Corp., 147 Milk St., Boston, Mass., will erect power plant near present one at Lakeshore Drive and Houston Ave., and will connect with Kansas City Southern for assembling material at site.

Voth, Tex.—Plans being prepared for rebuilding plant of Keith Lumber Co. (J. Frank Keith, pres., Beaumont), recently destroyed by fire; new building will cost $70,000.

Aberdeen, Wash.—Reported by R. S. Talbot, Spokane, head of Inland Empire Pulp & Paper Mills, that company will erect 50-ton capacity per day pulp and paper mill here to cost $750,000.

Amboy, Cal.—Reported Consolidated Pacific Plaster Co. has plans prepared for erecting plant here for developing gypsum deposits. Atchison, Topeka & Santa Fe R. R. Co., G. W. Harris, ch. engr., Los Angeles, will erect 4500-ft. spur track to the site.

Amherst, N. S.—Reported International Engineering Co. will rebuild plant recently destroyed by fire with loss of $50,000.

Chatham, Ont.—Reported Libby, McNeill & Libby, U. S. Yards, Chicago, Ill., plan erecting branch factory here to cost $100,000.

Ford City, Ont.—Reported Canadian Stamping Co., Edna St., is preparing plans for erecting factory to cost $50,000. Work to begin in spring.

London, Ont.—Reported Crow Motor Car Co., A. Eisenbach, mgr., Mt. Brydges, Ont., plans erecting $100,000 plant here.

Niagara Falls, Ont.—Reported American Cyanamid Co., whose hydrate building was recently destroyed with loss of $250,000, will rebuild.

Port Arthur, Ont.—Reported Port Arthur Pulp & Paper Co. (A. G. Pounsford, Mgr.), plans erecting pulp and paper mill to cost $1,000,000. Work to begin in spring.

Toronto, Ont.—See "Reinforced Concrete."

Toronto, Ont.—See "Foundations, Piers and Dams."

Toronto, Ont.—Reported Channel Chemical Co., 369 Sorauren Ave., will rebuild factory recently damaged by fire; cost $55,000.

Toronto, Ont.—Reported Dominion Envelope Co., 90 Ontario St., is preparing plans for erecting 5-story brick addition to present factory building; cost $50,000.

Plans being prepared by W. J. Keen, 174 Spadina Ave., for erecting 6-story mill and brick construction warehouse. Work to begin in spring.

Edmonton, Alta.—Reported Edmonton Power Co. preparing plans for erecting new power plant tocost $1,500,000; will also construct 80 miles of railway. E. W. Bowness, engr.

BIDS DESIRED

Flint, Mich.—Reported desired until Feb. 15 by Buick Motor Co. (A. Chrysler, mgr., Hamilton Ave.) for erecting 1-story, 140 x 800-ft. auto warehouse.

PRICES AND LETTINGS

★*Indicates award of contract.*

Brooklyn, N. Y.—See "Reinforced Concrete."

Newark, N. J.—See "Reinforced Concrete."

★**Cleveland, O.**—Contract awarded Walther Engr. Co., 418 American Trust Bldg., for erecting factory at Marcelline Ave. N. E. and E. 71st St. for Harris Automatic Machine Co., Niles, O., to cost $110,000.

★**Green Bay, Wis.**—Contract awarded Ambrose Wahl, St. Cloud, Minn., for erecting railway shops to cost $50,000 for Great Northern Railway (A. H. Hogeland, Ch. Engr., St. Paul.)

★**Huntington Park, Cal.**—Contract awarded J. Wesley Croner, 4530 Kingswell Drive, Los Angeles, at about $60,000, for erecting brick, corrugated iron and frame, 150 x 377-ft. machine shop, 100 x 155-ft. foundry, 126 x 75-ft. pattern shop, 32 x 100-ft. office, 25 x 75-ft. forge room, garage, store sheds, etc., on 7-acre site on Boyle Ave. for Axelson Machine Co., 1406 San Fernando St., Los Angeles. Edwin C. Thorne, archt., Exchange Bldg., Los Angeles.

BUILDINGS
Public and Private

PROPOSED WORK

Cambridge, Mass.—Plans being prepared by Wm. L. Mowll, 185 Devonshire St., for erecting 2-story theatre, store and office building 40 x 100 and 80 x 150 ft., to cost $400,000, for Olympia Theatre Co., 3 Tremont Row, Boston.

Chicopee, Mass.—Contract will soon be awarded for erecting 3-story 200 x 360 ft. fireproof, brick, high school building to cost $300,000. Geo. E. Haynes, archt., 184 N St., Pittsfield Mass.

Springfield, Mass.—Reported H. H. Buckholz will erect 2 story, 175 x 145 ft. brick and steel garage on Main St. H. C. Hearn, archt., 387 Main St., here.

Hartford, Conn.—Reported Travelers' Insurance Co. will erect 23-story 125 x 47 ft. and 480 ft. office building to cost $1,400,000.

New York, N. Y.—Plans filed for erecting the following: 6-story 150 x 85 ft. tenement building at 150 W. Broadway to cost $100-000, for C. H. B. Realty Co., 238 W. 106th St., Sam Cohen, archt., 32 Union Sq.; 1-story fireproof church for St Bartholomew's Church Corp., 342 Madison Ave., cost $800,-000, Bertram G. Goodhue, archt., 2 W. 47th St.; 4-story 100 x 101 ft. garage at 65th St. and West End Ave., cost $80,000, for Thos. F. Devine, 79 West End Ave., J. C. Cocker, archt., 2017 5th Ave.; 2-story 100 x 143 ft. theater at 1614 Broadway, cost $250,000 for Barney Estate Co., Thos. W. Lamb, archt., 644 8th Ave.

New York, N. Y.—Plans filed for erecting following: 15-story, 50 x 102-ft. apartment hotel to cost $300,000 at 114 W. 72d St., for Waitt Constr. Co., 2 W. 45th St., Schwartz & Gross, 347 5th Ave., archt.; 13-story, 76 x 140-ft. store and office building to cost $400,000, at 42 Union Sq. for Union Sq. Bldg. Corp., 15 Broad St. Wm. Piqueron, archt., 59 Pearl St.

Onondaga, Valley, N. Y.—Plans being prepared by Russell and King, 602 Snow Bldg., Syracuse, N. Y., for erecting 2-story and basement 217 x 150 ft. school building to cost $150,000. Floyd B. Avery, pres., Bd. Educ.

Utica, N. Y.—Plans were completed by Barnett Architectural Co., Central National Bank Bldg., St. Louis, Mo., for erecting 6-story addition to hotel of Wm. Martin, 225 Bleecker St., Utica; cost $80,000.

Asbury Park, N. J.—See "Reinforced Concrete."

Bayonne, N. J.—Reported Public Service Corporation will erect 3-story brick building at B'way and 36th St. for offices and showrooms to cost $75,000.

Hightstown, N. J.—Bd. Corporators, Peddie Institute, will, in addition to administration building to cost $125,000, also erect junior building and will spend a similar sum for same. Address Dr. Swetland, pres.

Kearny, N. J.—Reported Bd. Educ. plans erecting school building to cost about $200,000.

Linden, N. J.—Plans being prepared by John L. Pierson & Son, Metuchen, for erecting school building to cost $60,000. Address Bd. Educ.

Lodi, N. J.—Plans being prepared by Anton Veliante, 42 Passaic St., Garfield, for erecting school building to cost $75,000. John Butler, pres., Bd. Educ.

Newark, N. J.—Common Council plans extensions and improvements in Center Market to cost about $60,000. Mayor has approved this expenditure.

Rahway, N. J.—Reported Bd. Educ. (Wm. F. Little, supt.) plans erecting school building to cost about $100,000.

Springfield, N. J.—Election will be held by Bd. Educ. for issuing $50,000 bond issue for erecting addition to school. C. Godfrey Poggi, archt., Elizabeth.

Summit, N. J.—Plans being prepared by B. J. White, Beacon road, for erecting addition to Overbrook Hospital at cost of about $50,000.

Trenton, N. J.—Reported Mercer Trust Co. (William G. Howell, Pres.) has purchased site and will erect new institution on S. Broad and Market Sts., to cost $125,000.

Reported Z. Z. Davies, Pittsburgh; A. L. Wilson, Portland, Ore., and Paul W. Custer, San Francisco, forming company to erect 12-story hotel to cost about $700,000. John Canning, archt., E. 13th St., Wilmington, Del.

Reported City Comn. plan erecting twenty buildings and trolley terminal for three suburban lines, to cost between $600,000 and $800,000. Leon D. Hirsch, city clk.

Coatesville, Pa.—Reported plans completed for erecting bank building for Nat'l Bank of Chester Valley; cost $50,000. A. A. Richter, archt., 31 N. 6th St., Reading.

Elizabethtown, Pa.—Directors of Masonic Home will erect 3-story, 38 x 97-ft. addition to cost about $55,000.

Philadelphia, Pa.—Reports from Washington are that naval bill will appropriate $80,000 for erecting additional accommodations at League Island Barracks and $200,000 to enlarge barracks.

Plans being prepared by Simon & Bassett, 1112 Chestnut St., for erecting 7-story 85 x 264 ft. brick, stone, steel and concrete addition to Lit Bros. department store at 7th and Market Sts.; cost about $1,000,000.

Wernersville, Pa.—Plans prepared by H. L. Stevens & Co., archts. and engrs., 910 S. Michigan Ave., Chicago, for erecting 4 or 5-story 150 x 150 ft. summer hotel to cost $500,000. Dr. C. H. Craig, 331 S. 12th St., reported interested.

Wilmington, Del.—Revised plans being prepared by Hoffman Co., Finance Bldg., Philadelphia, for erecting 12-story 75 x 120 ft. bank and office bldg. for Delaware Trust Co., Alfred I Du Pont, pres., 9th and Marshall Sts., Wilmington.

Adamson, W. Va.—School bonds for $90,000 will be sold Feb. 20, by Bd. Educ. (E. H. Bates, pres.)

Greensboro, N. C.—Plans being prepared by W. L. Stoddart, 9 E. 40th St., New York City, for erecting 7-story 75 x 143 ft. hotel bldg. for New Henry Hotel Co., cost $350,000.

Tampa, Fla.—See "Reinforced Concrete."

Monroe, La.—Plans were approved for erecting 4-story Court House and Jail to cost about $250,000. C. W. Phillips, chmn.

Rayville, La.—Reported school bonds for $75,000 will be sold Feb. 20 by E. Keebler, supt. schools.

Maryville, Tenn.—School bonds for $50,000 will be sold Feb. 24; address Geo. D. Roberts, Blount, chmn. co. court, Maryville.

Cincinnati, O.—Reported Ph. Morton Art Bulletin System Co., 828 Wader St., plans erecting service station at Gilbert & Elsinore Aves., to cost $60,000.

Plans being prepared by Edwin H. Eyrich, Provident Bank Bldg., for erecting 10-story loft building at 5th and Home Sts. for B. H. Kroger, to cost $125,000.

Cleveland, O.—Reported Broadway Methodist Church, Broadway and Gallup Aves., plan erecting new edifice to cost $150,000 on Broadway between Magnet & McBride Ave. O. M. Stafford, S. S. Supt.

Dayton, O.—School bonds for $100,000 will be sold Mar. 1, by Bd. Educ. (C. J. Schmidt, clk.)

Galion, O.—Plans being prepared by Howard & Merriam, 8 E. Broad St., Columbus, O., for erecting 2-story and basement high school building to cost $110,000. C. C. Coyle, clk., Bd. Educ.

Galion, O.—School bonds for $120,000 will be sold Feb. 27 by Bd. Educ. C. C. Coyle, clk.

Lancaster, O.—Reported Bd. Educ. (David Vangundy, Pres., Bd. Mgrs.), will erect school buildings to cost $90,000. Allen & Mountz, 310 Huntington Nat'l Bank Bldg., Archts.

Plymouth, Ind.—Plans being prepared by H. H. Richards, 327 S. La Salle St., Chicago, for erecting 2-story and basement, 30 x 80 ft. bank and office bldg. for First National Bank; cost $50,000. H. A. Logan, pres., Plymouth.

La Crosse, Wis.—Reported Lutheran Hospital Assn. will erect 4-story addition to present hospital; cost $80,000.

Racine, Wis.—Reported Wisconsin Telephone Co. plans erecting central station to cost $100,000.

Marshalltown, Iowa.—Reported Senator Arney of Marshall Co., Des Moines, introduced bill appropriating $65,000 for erecting soldier's home here.

Ironton, Minn.—Election for issuing $100,000 bonds for erecting grade school, carried. E. R. Burns, city clk.

Ogilvie, Minn.—Reported plans being prepared by A. H. Foss, Elbow Lake, Minn., for erecting school building to cost $50,000.

St. Paul, Minn.—Reported St. Paul City Railway Co., College Ave. and Wabasha St., will erect new $130,000 car station.

Reported a Masonic Home will be erected to cost $100,000.

Worthington, Minn.—Reported Worthington Hospital Assn. will erect modern building to cost $60,000. Dr. C. P. Dolan.

Sedan, Kan.—Reported Geo. P. Washburn & Son, prepared plans for erecting 3-story court house, 68 x 52, to cost $50,000.

Wichita, Kans.—Plans were completed by Smith Rae & Lovitt, Kansas City, Mo., for erecting 10-story and basement hotel for Wichita Hotel Corp., E. E. Bessire, pres., Wichita; cost $425,000.

Glendive, Mont.—Reported Northern Pacific Ry. Co. (H. E. Stevens, ch. engr., St. Paul, Minn.) plans immediate erection of depot here to cost $80,000.

Helena, Mont.—Reported State Bd. Educ. has been asked to appropriate $250,000 for erecting new buildings at State University, Agricultural College and Normal School.

Amarillo, Tex.—Plans have been prepared for erecting modern hotel building to cost about $190,000. Address Mayor.

Austin, Tex.—Reported Attorney General's department has approved $50,000 bond issue for Amarillo independent school district.

Brownwood, Tex.—Bond issue of $80,000 for erecting high school building and $30,000 for erecting city hall approved by citizens.

Dallas, Tex.—Reported City Comn. has been requested by Bd. Educ. to call election to vote on $500,000 bond issue for erecting school buildings. Address Henry D. Lindsley, mayor.

Reported Fred and Frank Edwards have purchased site at Main and St. Paul Sts. and will erect modern automobile service station to cost about $200,000. Address Frank Edwards, Dallas.

Texarkana, Tex.—Plans are being considered for erecting new City Hall to cost between $75,000 and $100,000. Address Mayor.

Olympia, Wash.—Reported plans for erecting modern hotel, costing from $125,000 to $250,000, are being prepared by Olympia Chamber of Commerce, and sufficient support to insure the success of the project has been pledged.

Seattle, Wash.—Plans to be prepared by Warren H. Milner, Haight Bldg., Seattle, for erecting 6-story, 85 x 120-ft. solid brick apartment house on 7th Ave. and Olive St. to cost $200,000.

Tacoma, Wash.—Reported Anderson Estate, Tacoma, plans erecting 1-story, $100,000 public market building at 13th and Market Sts.

Tacoma, Wash.—Reported City will erect market building on Market St. between 11th and 13th Sts., to cost about $100,000. Address City Clerk.

Astoria, Ore.—Reported Portland, Spokane, & Seattle Railway (A. M. Luther, Engr., Portland), will erect depot here to cost $70,000.

Bakersfield, Cal.—All bids received Jan. 15 by Superv. Archt., Washington, D. C., for erecting post office were rejected.

Los Angeles, Cal.—Reported school bonds for $570,000 will be sold Feb. 19 by Bd. Superv. A. M. McPherron, clk.

Sacramento, Cal.—Reported Senator S. C. Evans of Riverside, asking for appropriation of $150,000 for erecting university farm school in southern California.

Tucson, Ariz.—Reported election will be held Feb 17 to vote on $150,000 bond issue for erecting school building.

Halifax, N. S.—The Halifax Realty Co. (John W. Regan, Jubilee Road, Secy.), preparing plans for erecting commercial building to cost $150,000.

Halifax, N. S.—Plans being prepared by H. E. Gates, Hollis St., for erecting boys' school to cost $100,000.

Hamilton, Ont.—Reported James Jolley & Son, 51 John St., plan erecting garage and auto repair shop to cost $50,000.

Reported Trades and Labor Council, John Pryke, secy., 191 Forest Ave., plans erecting labor temple to cost $75,000.

Rockland, Ont.—Plans being prepared by P. S. Hudson for erecting Catholic Church to cost $100,000; work to begin in spring.

Toronto, Ont.—Plans being prepared by Chapman & McGiffin, 95 King St. E., for erecting 5-story stone construction office building for Toronto Harbor Comrs. to cost $200,000.

Plans being prepared by Darling & Pearson, 2 Leader Lane, for erecting mausoleum of marble and granite, to cost $250,000, for Toronto Burying Grounds Trustees, Confederation Life Bldg.

BIDS DESIRED

Chicopee, Mass.—Until Mar. 6, by John C. Gray, supt. schools, for erecting high school building; seperate bids for plumbing, heating and electric wiring.

Springfield, Mass.—Until Feb. 15 by Committee on City Prop. (Fred A. Morrill, secy.) for erecting, heating, wiring and elevator construction in Emery St. shop addition. Bruno Wozny, archt., 281 Main St.

Bridgeport, Conn.—Reported desired until Feb. 17 by United Congregational Congregation for erecting church, cost about $50,000. C. Gilbert, 11 E. 24th St., New York City, archt.

Geneva, N. Y.—Until Feb. 23 by Dr. W. H. Jordan, dir. state agricultural experiment station, for erecting, including heating, plumbing, drainage and electric work, for administration, library and demonstration buildings; advertised in this issue.

Kings Park, N. Y.—Until Feb. 28 by State Hospital Comn. (E. S. Elwood, secy., Capitol, Albany, N. Y.) for erecting employees' home at Kings Park State Hospital; plans may be obtained at the hospital and at New York office Dept. of Architecture, Room 1224 Woolworth Bldg., as well as at Capitol in Albany.

Rochester, N. Y.—Until about March 1 for erecting Lake Ave. Baptist Church, cost about $100,000. Foote, Headley & Carpenter, archts., Cutler Bldg.

New Market, N. J.—Until Feb. 20, by Bd. Educ. (John Geary, pres.) of Piscataway Twp. for erecting addition to New Market St., school building; separate bids for heating, plumbing and wiring; N. Pierson & Son, archt., Perth Amboy.

Milford, N. J.—Until Feb. 15 by Bd. Educ. (E. S. Hull, pres.) for erecting semi-fireproof brick school building; separate bids for heating, plumbing, ventilating and sewage.

Ocean City, N. J.—Until about March 10 by H. E. Wendell, archt., 638 Central Ave., for erecting hotel, 5 stories, 110 rooms, passenger and freight elevators, etc.

Elizabethtown, Pa.—Reported desired until Feb. 15 by E. Emlen Urban, Woolworth Bldg., Lancaster, archt., for erecting 3-story, 215 x 71-ft. memorial building addition for Masonic Home Committee of Grand Lodge of Pennsylvania; cost about $90,000. Address F. W. Roberts, Elizabethtown.

Farrel, Pa.—Reported desired until March 1 (extension of date) by Rev. Simon V. Miskovick, St. Ann's R. C. Church, 619 Fruit Ave., for erecting 2-story, 62 x 110-ft. church; cost about $70,000. Jos. Brenot, Verbeck Theater Bldg., archt., Oil City.

Frankford, Pa.—Until Feb. 20 by Frankford Arsenal, for erecting additions to Artillery Case Shop and Instrument Bldg.

Greenville, Pa.—Reported desired until Feb. 23 by Bd. Educ. for erecting high school building; cost about $200,000. C. C. & A. L. Thayer, archts., New Castle.

Greenville, S. C.—Reported desired until Feb. 25 by Bd. Educ. for erecting 70 x 170-ft. reinforced concrete and tile construction high school building; cost about $55,000. J. E. Sirrine, archt.

New Orleans, La.—Until March 5 for erecting New Orleans Lodge No. 30, B. P. O. Elks. Toledano, Wogan & Bernard, archts., Title Guarantee Bldg., New Orleans. Advertised in this issue.

Cleveland, O.—Reported desired until Feb. 19 by Bd. Educ., Rockwell Ave. and 36th St., for erecting addition to Cortlet School. W. R. McCormack, archt.

North Hampton, O.—Until Feb. 16, by Bd. Educ. (W. S. Jenkins, clk), for erecting high school building; Hall & Lethly, archts., Springfield.

Detroit, Mich.—Reported desired until Feb. 21 by W. E. Hunter, 1306 Chamber of Commerce Bldg., for erecting 1½-story and basement, 64 x 110-ft. church for Scovel Memorial Presbyterian Church. A. C. Peopies, 809 Maybury Ave. ,archt.; cost about $50,000.

Sergeant Bluff, Ia.—Reported desired until Mar. 8, by Bd. Ed. (H. M. Michaelson, secy.) for erecting fireproof school building; separate bids on plumbing, heating, ventilating, and electric wiring; Wm. L. Steele, 502 United Bank Bldg., Sioux City, archt.

Iowa City, Ia.—Reported desired until Feb. 20 by School Bd. (J. Hertz, secy.) for erecting school. O. H. Carpenter, archt.

Vinton, Ia.—Reported desired until Feb. 14 by Bd. Educ. for erecting 2-story school building; cost about $100,000. Miller, Fullerwider & Dowling, 6 N. Michigan Blvd., Chicago, archts.

Owatonna, Minn.—Reported desired until Feb. 13, by M. J. Parcher, co. aud., for erecting county home.

Butte, Mont.— Reported desired until Feb. 26, by H. E. Andrus, for erecting hotel; cost about $100,000.

Bartlesville, Okla.—Reported desired until Feb. 26 by Bd. Educ. (F. E. Thurman, secy.) for erecting junior high school building. J. H. Felt & Co., archts., Kansas City, Mo.

Durant, Okla.—Until Feb. 26, by Co. Comrs. (Ed.. L. Spearis, chmn.), for erecting court house and jail; Jewell Hicks, archt.

Willows, Cal.—Reported desired until Feb. 26 by Jas. A. Wetmore, superv. archt., Treas. Dept., Washington, D. C., for erecting U S post office building

PRICES AND LETTINGS

★*Indicates award of contract.*

Waterbury, Conn.—Following are five bids received by Bd. Educ. for erecting high school building: Norcross Bros. Co., Worcester, Mass., at $324,900; Tracy Bros. Co. at $338.975; Lewis A. Miller, at $343,343; Thomas G. Smith at $346,950; Casper Range Constr. Co , at $359,608. Frency & Jackson, archts., 51 Leavenworth St.

Waterloo, N. Y.—Following are bids received by Superv. Archt., Treasury Dept., Washington, D. C., Jan. 25, for erecting U. S. Postoffice here—(a) limestone, (b) sandstone: Kelly & Kelly, Long Island City, N. Y. (a) $59,500, (b) $60,000; R. P. Farnsworth & Co., Evansville, Ind. (a) $55,400, (b) $56,400; John G. Unkefer & Co., Minerva, O. (a) $52,682, (b) $53,382.

★**South Bethlehem, Pa.**—Contract awarded Nagle & Co., 117 So. 12th St., Allentown, for erecting building for South Bethlehem Lodge No. 535, Loyal Order Moose; cost $70,000. E. R. Bitting, archt.

★**Port Arthur, Tex.**—Contract awarded by Bd. Educ. to American Constr. Co , Houston, Tex., for erecting high school building to cost about $225,000.

★**Alva, Okla.**—Contract awarded by Bd. Educ. (bids opened Jan. 25) to R. M. Crissman, Oklahoma City, at $56,900, for general construction; to Kavanaugh & Shea, Alva, at $11,447, for heating and ventilating; to Ed. McGerry, Alva., at $5,653, for plumbing. G. M. Lisk, clk. bd. educ.

★**Seattle, Wash.**—Contract awarded by John Graham, archt., Green Bldg., Seattle, to E. C. McDougal, Arcade Bldg., Seattle, at $85,000, for plastering the Frederick & Nelson Bldg., 4th and Pine Sts.

Fresno, Cal.—See "Reinforced Concrete."

★**Montreal.**—Contract awarded Norcross Bros., 10 Cathcart St., at $150,000 for erecting station for Canadian Northern Ry. Warren & Wetmore, 16 E. 47th St., archts., New York City.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK

Asbury Park, N. J.—City Comn. has decided to postpone indefinitely $11,000 improvement of Wesley Lake.

Trenton, N. J.—Federal Government has appropriated $45,000 for further improvements to Absecon Inlet at Atlantic City, which is now being dredged, and $40,000 for dredging Raritan Bay.

Clinton, N. C.—County contemplates draining Goshen Swamp; cost about $50,000.

Huntingdon, Tenn.—Surveys have been completed and contract will soon be let for Drainage Dist. No. 1, Carroll Co., for about 45 miles open ditch varying from 41½ ft. to 8 ft. bottom. Alf. A. Oldfield, dist. drain. engr.

Urbana, O. — Shelby and Champaign counties contemplate improving Mosquito Creek for about 12 miles; excavation of about 4 miles; cost about $40,000.

Rensselaer, Ind. — Gifford Drainage & Improvement Co. incorporated with capital of $40,000 for purpose of draining and ditching work. John Eger, Thos M. Callahan and John Marlatt among directors.

Milwaukee, Wis.—Plans have been completed for improving drainage system, constructing poultry buildings, etc., for state fair; cost $62,000.

Washington, Ark.—Drainage bonds for $56,000 will be sold Feb. 15 by Comrs. Ozan Drain Dist. at offices of Etter and Monroe, Washington.

Everett, Wash.—County Comrs. are taking steps for formation of Drainage Dist. No. 5, comprising 1700 acres in Big Marsh Section. Mae Weatherbee, co. aud.

Keystone, Wash.—R. T. Stone, secy.-treas. Keystone Water Users' Assoc., reports election held Jan. 26 for issuing $200,000 bonds for constructing pumping plant and irrigation system carried; about 5000 acres involved. Bids to be called for at an early date.

Milner, Wash.—Chas. E. Churchill, 50 Union Sq , New York, representative of Daniels-Hays Co., Rock Island, Ill., states that E. B. Berg, Twin Falls, has been engaged as engr. by the Milner-Twin Falls Land & Water Co. to water 40,000 acres of land near Milner, Murtagh and Hansen.

Wenatchee, Wash.—Lake Chelan Land Co., Wenatchee, plans early completion of Lake Chelan irrigation project; cost $120,000.

California.—State Water Comn. has granted permission to appropriate water for irrigation from streams in Southern California as follows:

John Ripley, Onyx, 1½ cu. ft. per second of Canebrake Creek tributary to south fork of Kern River to irrigate 100 acres, a main ditch 1650 ft. long will carry water from the creek to the land.

Chris. L. Worth, Isabella, to appropriate 1¾ ft. per second of stream in county for irrigating 100 acres; ditch 1400 ft. long will convey water to the land.

Dayton M. Furnivall, Saugus. ½ ft. per second of Santa Clara River; ditch half a mile long will convey water to land to water 40 acres.

J. F. Lingo, Maricopa, ⅝ cu. ft. per second of Bitter Creek Canyon, for irrigating 40 acres.

Calexico, Cal.—Water Companies Nos. 6, 8 and 12 contemplating construction new canals; cost $85,000.

Riverside, Cal.—State Railroad Comn. has authorized the issuing of $60,000 bonds by the West Riverside Canal Co. for improving their canal system.

BIDS DESIRED

Stone Harbor, N. J.—Until Feb. 19 by Leo F. McCraven, boro. clk., for refilling that portion of Great Channel to west of bulkhead; certified check for $200 to accompany bid.

Baltimore, Md.—Until March 8 at U. S. Engr. Office for dredging in Elk River advertised in this issue.

Mason City, Ia.—Reported desired until Feb. 19, by George E. Frost, co. aud., for constructing Drain. Dist. No. 49; work includes about 15,450 ft. tile of from 7 to 28 in.; Drain. Dist. No. 50; work includes 24,580 ft of from 6 to 26 in. tile; certified check for 10 per cent to accompany each bid.

Bemidji, Minn.—Until Feb. 23. by J.L. George, co. aud. for constructing Judicial Ditch No. 40; G. W. Walker, engr., Thief River Falls.

Blue Earth, Minn.—Reported desired until Feb. 16, by Fairbault Co. (Jesse L. Herring co. aud.) for constructing Ditch No. 50; bids on the whole job, on sections of 100 ft. and on sections laid out by engr.; work includes about 31,680 ft. of from 7 to 24 in. tile; cost about $15 858; also for constructing County Ditches Nos. 56, 58, and 59; total cost $15,106; Carl L. Hagger, engr.

Grand Rapids, Minn.—Reported desired until Feb. 19, by Frank Sherman, co. aud., for constructing Co. Ditch No. 7, cost about $20,000; certified check for 10 per cent to accompany bid.

Mankato, Minn.—Reported desired until Feb. 15. by C. L. Kennedy, co. aud. for constructing Judicial Ditch No. 17; work includes about 37,650 ft. of from 6 to 22 in. tile; cost about $10,561; also for Judicial Ditch No. 14; cost about $5,229.

Olivia, Minn.—Until Feb. 27 by J. L. Johnson, co. aud., for constructing Ditch No. 71, southeast of Sacred Heart; work includes about 13,987 ft. from 6 to 16-in. vitr. salt-glazed tile or concrete (preferably former), also retaining wall, etc., cost $5,381; W. G. Stoulil, engr., Bird Island. Ditch No. 72, same location, work includes about 63,935 ft. from 5 to 28-in. vitr. salt-glazed tile or concrete and specials; cost about $21,481; same engr. as above. Ditch No. 79, southwest of Olivia; work includes about 10,170 ft. 6 to 15-in. vitr. salt-glazed tile or concrete, also retaining wall, etc.; cost about $3,277; same engr. as above. Ditch No. 67, north of Olivia work includes about 112,300 ft. from 5 to 28-in. vitr. salt-glazed clay tile; total estimated cost about $61,162. L. C. Vader, engr., Olivia.

Pipestone, Minn.—Until Feb. 21 by Tad A. Bailey, co. aud., for constructing Judicial Ditch No. 1; (a) open work excavation on Main Ditch from Station 284 to Station 387; and on Branch A from Station 0 to Station 500; work includes about 378,094 cu. yd. earth excavation, and 528 cu. yd. rock excavation; total cost, $38,865; (b) open work excavation on Main Ditch from Station 284 to 134; work includes about 86,087 cu. yd. earth excavation, together with monolithic and concrete bulkheads; about 97,450 ft. from 6 to 32-in. tile; cost about $50,590; (c) open work excavation on Branch A 40-2 from Station 0 to 4; work includes about 6667 cu. yd. earth excavation, together with monolithic and concrete bulkheads; about 149,200 ft. from 6 to 26-in tile, cost about $48,795; (d) tile work in certain branches and 13 concrete bulkheads; work includes 65,900 ft. from 6 to 30-in. tile; cost about $23,579; (e) tile work on Branches A from station 500 to 560; about 26,000 ft. of from 6 to 20-in. tile; cost about $8,013.

Vallejo, Cal.—Reported desired until March 20 by Bureau Yards and Docks, Navy Dept., Washington, D. C. (F. R. Harris, ch.) for dredging about 1,000,000 cu. yd. material from channel at Mare Island Navy Yard.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Philadelphia, Pa.**—Contract awarded by Bureau Yards and Docks, Navy Dept., Washington, D. C , to American Dredging Co., North Chestnut St., Philadelphia, Pa., at 25.9 cts. for dredging at the Navy Yard.

★**Wilmington, Del.**—Contract awarded by Bureau Yards and Docks, Navy Dept., Washington, D. C., to Maryland Dredging & Contr. Co., 1515 Fidelity Bldg., Baltimore, Md., at $62,450, for dredging and rock excav. on Tinicun, Chester and Marcus Hook ranges, Delaware River.

Norfolk, Va.—Following are bids opened Jan. 29 by U. S. Engrs. Office for dredging in southern branch of Elizabeth River: Coastwise Dredge Co., Norfolk, 17.44 cts.; Norfolk Dredging Co , Norfolk, 17.7 cts., and Morris & Cumings Dredging Co., 17 State St., New York, N. Y., 22 cts. Prices given per cu. yd.; all bids cover disposal of dredged material by scow.

★**Silver City, Miss.**—Contract awarded M. E. Shea, Belgoni, at $27,000, for dredging work in Yazoo County. Bids opened Jan. 11 by J. H. Reed, pres. Atchfalaya Drainage Dist.

★**Garden Prairie, Ill.**—Contracts have been awarded by Coon Creek Drainage Comrs., Boone and McHenry Counties, to R. H. & G. A. McWilliams, 332 S. Michigan Ave., Chicago, Ill., at $27,205, for constructing drainage ditches near Belvidere and Marengo.

★**Havana, Ill.**—Following are four lowest bids opened Jan. 27 for excavating 134,797 cu. yds. earth, removal of four highway bridges, etc.: M. J. O'Mera, Beardstown, Ill., $18,593 (awarded contract); Chas. Lewis, Champaign, Ill , $19,362; G. A. McWilliams, 117 Kensington Ave., Chicago, Ill., $20,071; T. J. Dilly, Hebron, Ind., $21,483. C. H. Kreilling, engr., 112½ N. Plum St.

★**Clarion, Ia.**—Contract awarded by County to J. Brandt, Clarion, at $17,417 for constructing Ditch No. 151. Also Ditch No. 149 to E. F. Bailey, Belmont, at $27,109.

★**Sibley, Ia.**—Contract awarded by city to J. H. Salisbury, Sibley, at $180,575 for constructing ditch.

★**Montevideo, Minn.**—Contract awarded Feb. 1 by J. J. Stennes, co. aud., to J. W. Parsons, West Brook, for constructing Ditch No. 27: cost $41,511· C. A. McNeil, Maynard, Ditch No. 21; and Olson & Johnson, Minneapolis, for Ditch No. 1; bids on Ditches 32 and 33 rejected.

Granite Falls, Minn.—Bid opened Jan. 27 by G. H. Wilson, co. aud., for constructing Judicial Ditch No. 4 was that of Olaf Berg, Cottonwood, Minn., at $25,465.

★**Hope, Ark.**—Contract awarded E. J. Hahn, Little Rock, at about $50,000 for ditch in Ozan Drainage Dist. No. 2, to consist of 400,000 cu. yd. excav.; also bridges.

Tacoma, Wash.—Following are bids opened Jan. 25 by U. S. Engrs. for dredging city waterways: J. M. Clapp, Seattle, Wash., $20,082; Twenden & Mills, Tacoma, $14,123; D. W. Rutherford, Tacoma, $11,160.

★**Chino, Cal.**—Following bids opened Jan. 23 by E. L. P. Wetmore, city clk., for excavation for street improvement work: Geo. R. Curtis, 552 St. Louis St., Los Angeles, $30,263 (awarded contract); Johnson-Shea Co., Riverside, Cal., $33,357; L. A. Paving Co., 222 Wilcox Bldg., Los Angeles, $26,949.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK

Manchester, N. H.—Manchester Traction, Light & Power Co. contemplates constructing a dam and power house 300 ft. long; cost $250,000. French & Hubbard, engrs., 88 Pearl St., Boston, Mass.

Hoboken, N. J.—Lackawanna RR. (G. R. Ray, ch. engr., Hoboken) contemplates constructing piers on the North River, foot of 11th St.

Charleston, W. Va.—Fairmont & Clarksburg Power Co. has applied to Pub. Serv. Comn. for permission to condemn land and construct four dams across Buckhannon Middle Fork and Tygart's Valley River for developing power.

Charleston, S. C.—City contemplates extending sea wall about 1000 ft. and filling behind same of about 25,000 cu. yd. J. H. Dingle, city engr.

Shreveport, La.—City Council contemplates constructing wall around river front reclaiming about 35 acres. Address Jno. M. W. Ford, mayor.

Cincinnati, O.—Surveys have been made by Jas. A. Stewart to utilize the water power of Little Miami River by constructing dams along the river and convert the energy of stream by turning over wheels to drive dynamos for generating electricity at a number of stations; reported dams will furnish a plant of 8000 hp. J. W. Hill, hyd. engr., 406 First Nat'l Bank Bldg.

Columbus, Ohio—Council has approved ordinance authorizing issuance of $3,500,000 channel improvement bonds. Henry Maetzel, city engr.

Mongo, Ind.—Farmers' & Merchants' Light & Power Co., Mongo, applied to Pub. Serv. Comn. for authority to issue $500,000 to be used for purchasing and improving five dams and water power plants on St. Joseph's and Fawn Rivers in Northern Indiana and Southern Michigan; cost $278,250.

Kimball, S. D.—South Dakota Hydroelectric Corporation, incorporated with capital of $15,000,000, proposes to develop water power of Missouri River in South Dakota to operate hydroelectric plants. Geo. W. Adams, promoter, Council Bluffs.

Santa Fe, N. M.—Plans have been approved by Jas. A. French, state engr., for constructing Eagle's Nest Dam of Cimarron Valley Land Co., to be 126 ft. high, largest private irrigation project in state.

Anacortes, Wash.—Plans for municipal docks, warehouses and other public port facilities of the new Cap Sante waterway being formulated by Chamber of Commerce and city council. Federal government to appropriate $56,000 for dredging Cap Sante waterway.

Bellingham, Wash.—Election to be held March 15 for issuing $65,000 bonds for constructing municipal dock at foot of Pine St.

Olympia, Wash.—West Coast Corp. formed for purpose of constructing breakwaters along California coast; capital $600,000. C. W. Daughs, E. J. Cannon and J. M. Cannon, incorporators, all of Spokane.

San Dimas, Cal.—Citrus Improv. Co., San Dimas, secured permission from State Water Comn. to appropriate one-fourth second ft. of water in Ham Canyon to water 80 acres; water to be developed by tunneling into the rocks and constructing concrete dam across mouth of tunnel.

Spokane, Wash.—Hydroelectric development on the Pend Oreille River, about 125 mi. north of here, consisting of dam 375 ft. high above bed of river, and about 250 ft. long at crest—25 ft. higher than the Arrow Rock dam, which is highest in the world, contemplated. Preliminary work costing $175,000 completed. Hugh Cooper, engr., 101 Park Ave., New York, N. Y.

Port Arthur, Ont.—By-law authorizing expenditure of $2,500,000 for power development by Ontario Hydroelectric Comn. of Toronto (F. A. Gaby, ch. engr.) has been passed by ratepayers.

Philadelphia, Pa.—Following are bids opened Jan. 29, by Bureau Yards & Docks, Navy Dept., Washington, D. C., for constructing drydock at the Navy Yard: (a) Porter Bros., 548 Miners Bank Bldg., Wilkes-Barre, Pa.; (b) H. P. Conger & Co., 88 Broad St., Boston, Mass.; (c) Geo. Leary Constr. Co., 17 State St., New York City; (d) Maryland Dredg. & Constr. Co., 1515 Fidelity Bldg., Baltimore, Md.; (e) Smith, Hauser & MacIsaac, 18 E. 41st St., New York, N. Y.; (f) Foundation Co., 233 Broadway, New York City, submitted an alternate bid for work complete, amounting to $2,500,626, which price included $80,788 for plant depreciation, also bid for labor and material plus $250,000.

	(a)	(b)	(c)	(d)	(e)	
cofferdam and pumping	$275,000.00	$234,521.00	$274,000.00	$100,000.00	$235,000.00	
excavation	1.00	.90	.90	.80	.75	Alternate .97
excavation below 3-ft. line	2.00	1.145	1.50	.80	3.00	3.00
excavation	2.00	1.27	1.50	3.50	3.50	3.50
miscellaneous excavation	2.00	2.55	1.50	2.50	5.00	5.00
dredging	.50	.318	.30	.20	.50	.50
143,975 cu. yds. Class 1, 2½, 5 plain concrete.	5.60	6.69	7.25	6.50	7.25	7.80
Class 1, 2½, 5 waterproof concrete	7.25	7.50	9.80	7.25	9.00	9.00
2,560 cu. yds. Class 1 and 2 four conc. girders, bollard found., roof of pump well, and sluice chambers	8.00	7.45	9.80	12.00	10.00	10.00
23,800 lin. ft. round piling under design structure	.50	.48	.55	.50	.60	.60
test piling per lin. ft.	.50	.84	.55	1.00	5.00	5.00
470,000 lin. ft. test piling per lin. ft. under dock	.40	.40	.65	.50	.60	.80
timber and sheet piling	.10 ft.	.09 ft.	150.00 M.	100.00 M.	.11	.11
24,682 cu. ft. caissons sets granite coping body of dock, face of dock	3.00	2.55	3.50	2.50	3.00	3.00
structural steel per lb.	.09	.07	.11	.07	.07	.07
galvanized steel	.18	.14	.20	.15	.12	.12
galvanized coated steel	.14	.15	.16	.10	.12	
reinforcing bars	.07	.0466	.07	.05	.06	
wire fabric reinforcing	.075	.10	.12	.10	.10	
coated c. i. pipe	.05	.035	.05	.04	.04	
cast iron and specials	.08	.06	.08	.06	.08	
miscell. cast iron	.10	.09	.11	.10	.11	
miscell. cast steel	.40	.18	.29	.20	.13	
miscell. wrought iron	.20	.19	.27	.20	.13	
galvanized maleable c. i.	.30	.38	.37	.15	.25	
composition and bronze	.80	.76	1.00	1.00	.60	
wrought iron air piping	.80	.38	1.00	.40	.75	
wrought iron valves	10.00	11.00	20.00	10.00	5.00	
piping hand rails, stairs, galleries, etc.	.35	.30	.50	.20	.25	
stanchions rails, stairs, galleries, etc.	.60	.18	.50	.20	.15	
fittings rails, stairs, galleries, etc.	.60	.31	.50	.25	.15	
guard rail stanchions	.60	.18	.50	.20	.15	
guard rail chains	.30	.19	.50	.30	.15	
straight rail	.075	.04	.12	.05	.06	
curved rail	.075	.04	.12	.05	.06	
cliffs and anchorage	.075	.04	.12	.05	.06	
splices and bolts	.075	.04	.12	.05	.06	
stops	.075	.04	.12	.05	.06	
bearings plates at joints	.075	.04	.12	.05	.06	
guard rails	.075	.04	.12	.05	.06	
frogs	200.00	127.40	400.00	100.00	250.00	
crossings	300.00	254.80	400.00	100.00	1,000.00	
switches	200.00	89.00	400.00	100.00	200.00	
oak lumber	.10 ft.	.121 ft.	.11 ft.	100.00 M.	.12	
N. C. pine	.08 ft.	.09 ft.	.11 ft.	100.00 M.	.10	
maple	.11 ft.	.121 ft.	.11 ft.	100.00 M.	.14	
vitr. electric conduit	1.50	1.30	1.30	1.25	.15	
electric conduit and outlet boxes	$1.00 ft. & $10.00	.50 & $76.00	2.00 & $100.00	.40 & $75.00	.50 & $10.00	
vitr. sewers and specials	.30 & 2.00	.55 & 2.55	1.00 & 4.00	.30 & 2.00	1.00 & 5.00	
sidewalk, lights and pumphouses	.60	.50	1.00	.50	.50	
steel sash	10.00	6.37	2.00	2.00	6.00	
steel doors	10.00	7.64	2.00	5.00	5.00	
rib glass	1.00 ft.	.64	2.00	1.00	1.00	
sluice gates and frames (each)	7,000.00	4,140.00	7,000.00	3,500.00	7,000.00	
test pipe piping	.80	.70	1.00	.40	1.50	
test pipe valves	10.00	14.00	20.00	10.00	10.00	
test pipe fittings	.60	.50	1.00	.25	.50	
tile	2.00 ft.	1.274	3.00	2.00	1.50	
time of completion	960 days	900 days	970 days	870 days	1460 days	Alter. 1185 days

Riverside, Ore.—A. J. Welton of United Contracting Co., Northwest Bank Bldg., Portland, and T. A. Garrow, engr., have been engaged to prepare plans for constructing 48 ft. high 300 ft. wide gravity section dam to hold 160,000 acre ft. of water at Riverside, provided for in proposed Warm Springs Irrigation project, for which Lumbermen's Trust Co. of Portland recently bid an issue of $750,000 bonds; when finished will water about 40,000 acres.

Toronto, Ont.—Bd. Control (Thos. McQueen, secy.) contemplates constructing new coal docks and storage buildings; cost $2,000,000.

Vancouver, B. C.—Great Northern RR. Co. (E. B. Ford, ch. engr.), contemplates constructing addition to its docks at foot of Campbell Ave., costing $50,000.

BIDS DESIRED

Pensacola, Fla.—Until Mar 15 by Treas. Dept., U. S. Coast Guard, Washington, D. C., for constructing wharf and boathouse at Station No. 215, Santa Rosa Island.

Wilkes-Barre, Pa.—Until Feb. 13 by Fred H. Gates, city clk., for constructing red stone retaining walls and steps in front of Nos. 67-77 Kidder St.; certified check for $100 to accompany bid.

Grand Rapids, Mich.—Until March 5 at U. S. Engr. Office for building pile substructure and constructing concrete superstructure north revetment at Grand Haven Harbor; advertised in this issue.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Perth Amboy, N. J.**—Contract awarded East Jersey Bridge & Contr. Co., Perth Amboy, for constructing dock and bulkhead for the Raritan Copper Wks. at $55,000.

★**Charleston, S. C.**—Contract awarded by Valk & Murdoch Iron Wks., 20 Hasel St., to Hay & Crouch for constructing wharf 275 ft. long and 28 ft. wide to insure large docking space for vessel.

Cleveland, O.—Contract awarded by Newburg & South Shore Ry. Co., 4214 E. 71st St., to Fairbank, Morse & Co., 900 S. Wabash Ave., Chicago, Ill., at $12,000 for constructing coaling dock.

★**Dayton, O.**—Contract awarded Structural Concrete Co., Dayton, for erecting power plant of Dayton Power & Light Co. at Miller's Ford; cost, $300,000.

Galveston, Tex.—Following are totals and unit figures of bids opened Dec. 26 by E. N. Johnson, Corps. Engrs., U. S. A., Galveston, for jetty work at Port Aransas, Tex.; (a) David M. Picton, Galveston, Tex., $52,350; (b) Chas. Clarke, Galveston, $54,512:

	(a)	(b)
650 tons small riprap from 15 to 200 lb. per piece properly placed in the core of the work	$4.95	$5.00
2,700 tons large riprap from 5 to 10 tons per piece, properly placed in the slopes of the work	5.65	6.00
250 tons crest stone 9 to 11 tons, to average about 10 tons each, properly placed in the work	6.95	7.25
360 pieces crest blocks picked up and rebedded	8.50	7.50
700 tons small riprap from 15 to 200 lb. per piece, properly placed in the core of the work	4.95	5.00
1,000 tons medium riprap from 200 lb. to 3 tons per piece, properly placed in the core of the work	5.25	6.00
2,100 tons large riprap 5 to 10 tons per piece, properly placed in the slopes of the work	5.65	6.00
850 tons crest stone 9 to 11 tons, to average about 10 tons each, properly placed in the work	6.95	7.25
305 pieces crest blocks picked up and rebedded	8.50	7.50

TUNNELS AND SUBWAYS

PROPOSED WORK

Baltimore, Md.—See "Railroads."

Anderson, Ind.—See "Railroads."

Pocatello, Idaho.—See "Railroads."

Los Angeles, Cal.—Tentative plans have been filed with City Board of Pub. Utilities by Pacific Electric Ry. (Paul Shoup, gen. mgr.), for constructing subway from 4th to Hill Sts. to Vineyard Station, about 5 miles. Subway Rapid Transit Assoc. has been formed to devise ways and means of securing the improvement.

BIDS DESIRED

Los Angeles, Cal.—Until about March 1 by Bd. Pub. Wks. (Horace B. Ferris, secy.) for constructing 2nd St. tunnel; cost about $900,000.

MISCELLANEOUS

PROPOSED WORK

Transmission Line—Walden, N. Y.—Wallkill Valley Electric Light & Power Co. has petitioned Public Serv. Comn. for permission to erect transmission lines in towns of Montgomery and Crawford.

Incinerator—Bloomfield, N. J. — Town contemplates erecting garbage incinerator. Address Arthur Russell.

Mosquito Extermination—Trenton, N. J.—Application made by New Jersey Mosquito Extermination Assoc. to Legislature for appropriation of $100,000 for work during the year.

Coal Breaker—Pottsville, Pa.—Myrtle Coal Co. contemplates installing coal breaker near Pottsville, cost $50,000.

Cement—Savannah, Ga.—All bids opened Jan. 26 by City Bd. of Purchase for 5000 bbls. of cement amounting to $10,000 were thrown out owing to jump of 10 cts. per bbl. in price of cement.

Transmission line—Whitesburg, Ky.—Consolidation Coal Co., it is reported, contemplates extending its transmission lines from Central power station in Jenkins to supply electricity in Whitesburg, Kona and other central points. Address W. Burdine, Whitesburg.

Transmission Line—Delphos, O.—Northwestern Ohio Light Co. (W. P. Hurd, Van Wert, dist. mgr.), subsidiary of Federal Power & Light Co., Boston, Mass., contemplates following improvements: Rebuilding transmission line between Delphos and Van Wert; changing voltage from 13,000 to 30,000 volts; concrete substation; coal conveying system and other improvements; cost about $100,000. R. A. Langworthy, ch. engr., Boston, Mass.

Park Improvements—Evansville, Ind.—Improvements to cost $75,000 contemplated in Masker Park. W. A. Gardner, park supt.

Transmission line—Highland, Kan.—Hiawatha Light, Power & Ice Co. contemplates constructing electric transmission line between Robinson and Highland to supply electricity to local plant owned by M. V. Warner.

Transmission line—Alice Tex.—Alice Cotton Oil Co., recently purchased by the Morrison & McCall, Pub. Utilities Chemical Bldg., St. Louis, Mo.; latter contemplates enlarging plant, erecting transmission lines to San Diego and a number of other towns in this section.

Park Improvements—Amarillo, Tex.—See "Paving and Roads."

Transmission Line—Wichita Falls, Tex.—Wichita Falls Electric Co. contemplates extending transmission lines to Henrietta, a distance of about 18 miles.

Park Improvements—Ardmore (Okla.)—Election held Jan. 10 voted in favor of issuing $15,000 bonds for park improvements. O. C. Lasher, mayor.

Transmission Line—Oroville, Wash.—City Council approved ordinance authorizing West Okanogan Valley Irrigation Dist. to construct and operate electric transmission lines here.

Dredge—Astoria, Ore.—Port Comn. has rejected bids for purchase of 20 in. dredge for $40,000, and contemplates asking new bids for constructing dredge from plans already prepared by engineer Bartlett of Port of Astoria.

Transmission Line—Spring Brook, Ore.—Yamhill Electric Co., Newberg, contemplates constructing transmission line to Spring Brook to supply electricity to this town and adjacent territory.

Conveyor—Summerland, Cal.—All bids received by Bd. Awards, Dept. Agriculture, Jan. 19, for one power conveyor have been rejected.

Transmission Line—Higley, Ariz.—Electrical Dist. No. 2 has been formed and approved by Bd. Co. Supervs. and contemplates issuing bonds for installing transmission lines, transformers, etc.; cost $300,000. John A. German, chmn. trus.

Transmission Line—Sherbrooke, Que.—City Council considering by-law authorizing appropriation of $500,000 for purchase of Two Miles Falls power at Weedon, to develop same and erect transmission line to Sherbrooke. Francis & Co., cons. engrs., Montreal, estimates cost at $1,452,900.

BIDS DESIRED

Crushed Stone, Bank Gravel, etc.—Boston, Mass.—Until Feb. 15, by Supply Dept. (Patrick O'Hearn, actg. supt.), Room 108, City Hall Annex, for furnishing crushed stones, bank gravel and sand for year beginning Feb. 15, 1917, and ending Feb. 1, 1918.

Oil and Binder—Fitchburg, Mass.—Until Feb. 26, by Guy H. Chase, comr. streets and engrg., for supplying 80,000 gal. asphaltic oil dust, light and medium, 30,000 to 40,000 gal. heavy asphaltic oil, 40,000 to 50,000 heavy asphaltic penetrating binder for macadam construction, 5000 to 10,000 gal. asphaltic patching compound for macadam streets; advertised in this issue.

Garbage—Deal, N. J.—Until Feb. 24 by Clem Conover, boro. clk., for collection and disposal of garbage; certified check for $50 to accompany bid.

Hydraulic Lift—Philadelphia, Pa.—Until March 16 for installing hydraulic mail lift, pump, etc., in U. S. post office and court house here; advertised in this issue.

Crane, Miami, Fla.—Reported desired until Feb. 15 by W. B. Moore, city clk., for furnishing hand-power 15-ton capacity traveling crane. Plans may be obtained from Isham Randolph & Co., harbor engrs., Suite 18, Real Estate Bldg., Miami.

Horses and Props—Louisville, Ky.—Until March 5 by U. S. Engr., for furnishing and delivering horses and props for Navigable Pass, Dam 43, Ohio River; advertised in this issue.

Stone Quarry and Crushing Machinery—Kankakee, Ill.—Until Feb, 17, by Lehigh Stone Co., (W. R. Sanborn, vice pres.) for gyratory crusher, 36 in. feed opening, one structural steel overhead traveller track, one overhead traveller, one hoist and other machinery; (a) prices of item f. o. b. either shipping point, Kankakee, or Lehigh (b) shipping weight of item (c) term on which it is sold, (d) positive shipping date, (e) guarantees concernng its performance.

Sprinkler—Great Falls, Mont.—Until Feb. 20, by City Council (W. H. Harrison, city clk.) for motor-driven conbination street sprinkler and sweeper; advertised in this issue.

Incinerator—Tulsa, Okla.—Until Feb. 15 by Frank Newkirk, city aud., for constructing municipal incinerator; plans may be obtained from city engineer, City Hall, upon deposit of $25.

Flight Conveyor—Summerland, Cal.—Until Feb. 16 by Dr. J. W. Turrentine, Arlington Hotel, Santa Barbara, for furnishing one 500-ft. flight conveyor to U. S. Dept. Agriculture at Summerland; advertised in this issue.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Timber Groins and Sea Wall—Sandy Hook Reservation, N. J.**—Contract awarded Jarrett Chambers Co., Inc., 30 E. 42d St., New York City, at $55,000, for constructing timber groins and repair of sea wall near Sandy Hook Reservation, N. J.

★**Cement—Flint, Mich.**—Following bids opened Jan. 26 for furnishing city's supply of cement for year: Burroughs & Son, $1.98; Flint Coal Co., $1.98 (both awarded contract); Catsman Coal Co., $2.05; bidders all of Flint. D. E. Newcombe, city clk.

★**Incinerator—Des Moines, Iowa**—Contract awarded by City Council to J. W. Stokes, Houston, Tex., at $11,250 for constructing garbage incinerator of brick and concrete with tile roof for Des Moines.

★**Cylinder Gates—Denver, Col.**—Contract awarded by Secy. Interior to Vulcan Iron Wks., Denver, for furnishing butterfly and cylinder gates for use in connection with the McDonald and Tabor reservoirs in the Flathead Irrigation project, Montana, at $15,996 for gates delivered f.o.b. Denver.

San Diego, Cal.—Lowest bid submitted to City Council for riprapping temporary bulkhead at foot of B'way was that of Davey & Hawkins, at $12,036.

Proposals

For Proposals Advertised See Pages 37, 38, 39, 40

WATER WORKS AND SEWERAGE SYSTEMS

Bids Close.		See Eng. Record.
Feb. 13.	Millburn, N. J.	Feb. 3
Feb. 13.	Cincinnati, O.	Feb. 10
Feb. 14.	Akron, O. Adv. Jan. 27.	Jan. 27
Feb. 14.	Wyoming, O.	Jan. 27
Feb. 14.	Ridgefield, N. J. Adv. Jan. 27, Feb. 3.	Jan. 27
Feb. 14.	LaFayette, Ind.	Feb. 3
Feb. 14.	Brooklyn, N. Y.	Feb. 10
Feb. 14.	New York, N. Y.	Feb. 10
Feb. 14.	Philadelphia, Pa.	Feb. 10
Feb. 15.	Coshocton, O.	Feb. 3
Feb. 15.	Detroit Mich	Feb. 3
Feb. 15.	Casa Grande, Ariz.	Feb. 3
Feb. 15.	Washington, D. C.	Feb. 10
Feb. 16.	St. Louis, Mo.	Feb. 10
Feb. 16.	Philadelphia, Pa.	Feb. 10
Feb. 19.	Humboldt, Kan.	Jan. 27
Feb. 19.	Panama	Feb. 10
Feb. 19.	Corvallis, Ore.	Feb. 10
Feb. 20.	Ft. H. G. Wright, N. Y. Adv. Jan. 20 to Feb. 10.	Jan. 20
Feb. 20.	Oswego, N. Y. Adv. Jan. 20 to Feb. 10.	Jan. 27
Feb. 20.	Alliance, O.	Feb. 10
Feb. 20.	Bayonne, N. J.	Feb. 10
Feb. 21.	Emmett, Idaho	Feb. 3
Feb. 21.	Newark, N. Y. Adv. Feb. 3, 10.	Feb. 3
Feb. 21.	Baltimore, Md. Adv. Feb. 10.	Feb. 10
Feb. 23.	Milwaukee, Wis. Adv. Feb. 10.	Feb. 10
Feb. 27.	Toronto, Ont.	Feb. 10
Feb. 28.	Burlington, Ia. Adv. Feb. 10.	Feb. 10
Mar. 1.	Big Sandy, Mont.	Feb. 3
Mar. 1.	Springfield, Ill.	Jan. 13
Mar. 6.	Chilton, Wis.	Dec. 2
Mar. 7.	E. View (Cleveland P. O.), Ohio	Feb. 3
Mar. 10.	Ravenna, O.	Jan. 27
Mar. 10.	Ravenna, O.	Feb. 10
Mar. 15.	Winnipeg, Man. Adv. Feb. 10.	Feb. 10
Apr. 1.	Gibson, Ill.	Dec. 23
Apr. 1.	Mt. Vernon, O.	Dec. 23
Apr. 1.	Hillsboro, Ill.	Jan. 27

STRUCTURAL STEEL WORK

Feb. 13.	East Dubuque, Ill.	Jan. 20
Feb. 14.	Butte, Neb.	Feb. 10
Feb. 15.	Rockwell City, Ia.	Feb. 10
Feb. 15.	Philadelphia, Pa.	Feb. 10
Feb. 19.	Central City, Neb.	Feb. 10
Feb. 19.	Sisseston, S. D.	Feb. 10
Feb. 20.	Vinton, Ia.	Jan. 27
Feb. 20.	Council Bluffs, Ia.	Feb. 10
Feb. 25.	Marshalltown, Ia.	Feb. 10
Feb. 26.	Akron, O.	Feb. 3
Feb. 28.	Albany, N. Y. Adv. Feb. 3, 10.	Feb. 10
Feb. 28.	Brandenburg, Ky.	Jan. 27
Mar. 1.	Horatio, Ark.	Feb. 10
Mar. 5.	Brookville, Ind.	Feb. 3
Mar. 6.	Dillon, Mont.	Feb. 10
Mar. 7.	Dillon, Mont.	Jan. 27
Mar. 15.	Detroit, Mich. Adv. Feb. 10.	Feb. 10

REINFORCED CONCRETE

Feb. 15.	New York, N. Y.	Feb. 10
Feb. 14.	Sarita, Tex.	Feb. 3
Feb. 14.	Ann Arbor, Mich.	Feb. 3
Feb. 14.	Cheokee, Ia.	Feb. 10
Feb. 15.	Orangeburg, S. C.	Feb. 3
Mar. 12.	Washington, D. C.	Feb. 10
Feb. 15.	Kankakee, Ill.	Feb. 10
Feb. 16.	Columbus, O. Adv. Jan. 27 to Feb. 10.	Jan. 27
Feb. 19.	Yonkers, N. Y.	Jan. 27
Feb. 20.	Fleming, Ky.	Feb. 10
Feb. 20.	Toledo, O.	Feb. 10
Feb. 23.	Mont Clare, Pa.	Feb. 10
Feb. 25.	Greenville, S. C.	Feb. 10
Feb. 26.	Boston, Mass.	Feb. 10
Feb. 28.	Mt. Vernon, N. J. Adv. Feb. 10.	Feb. 10
Mar. 1.	Charleston, S. C. Adv. Feb. 10.	Feb. 10
Mar. 5.	Grand Rapids, Mich. Adv. Feb. 10.	Feb. 10
Mar. 9.	Milwaukee, Wis. Adv. Feb. 10.	Feb. 10
Mar. 26.	Hazard, Ky.	Feb 10

ROADS AND PAVING

Feb. 13.	Jamestown, Ky.	Jan. 20
Feb. 13.	Albany, Ky.	Jan. 20
Feb. 13.	Baltimore, Md. Adv. Feb. 3, 10.	Feb. 3
Feb. 13.	Everett, Wash.	Feb. 3
Feb. 13.	St. Paul, Minn.	Feb. 10
Feb. 13.	Trenton, N. J.	Feb. 10
Feb. 13.	Belleville, N. J.	Feb. 10
Feb. 13.	Columbus, O.	Feb. 10
Feb. 14.	Charleston, W. Va.	Jan. 20
Feb. 14.	Baltimore, Md. Adv. Jan. 27, Feb. 3.	Jan. 27
Feb. 14.	London, Ont.	Feb. 10
Feb. 14.	Cambridge, Ill.	Feb. 10
Feb. 14.	Passaic, N. J.	Feb. 10
Feb. 14.	Harrisburg, Pa.	Feb. 10
Feb. 15.	Waupum, Wis.	Jan. 27
Feb. 15.	Hampton, Ia.	Jan. 27
Feb. 15.	New Castle, Pa.	Jan. 27
Feb. 15.	Indiana	Feb. 3
Feb. 15.	Olean, N. Y. Adv. Feb. 3.	Feb. 3
Feb. 15.	Boston, Mass.	Feb. 10
Feb. 15.	Baltimore, Md. Adv. Feb. 10.	Feb. 10
Feb. 15.	Streator, Ill.	Feb. 10
Feb. 15.	Flemington, N. J.	Feb. 10
Feb. 15.	Cincinnati, O.	Feb. 10
Feb. 16.	Indiana	Feb. 3
Feb. 16.	Flemington, N. J.	Jan. 27
Feb. 16.	Cincinnati, Ohio	Feb. 10
Feb. 17.	San Bernardino, Cal.	Feb. 3
Feb. 19.	Stockton, Cal.	Jan. 20
Feb. 19.	Albany, N. Y. Adv. Feb. 3, 10.	Feb. 3
Feb. 19.	Fayetteville, W. Va.	Feb. 3
Feb. 19.	Indiana	Feb. 3
Feb. 19.	Kalamazoo, Mich.	Feb. 10
Feb. 19.	Meadville, Pa. Adv. Feb. 10.	Feb. 10
Feb. 19.	Everett, Wash.	Feb. 10
Feb. 19.	Kearney, Neb.	Feb. 10
Feb. 19.	Madison, S D.	Feb. 10
Feb. 19.	St. Paul, Minn.	Feb. 10
Feb. 20.	Albany, N. Y. Adv. Feb. 3.	Feb. 3
Feb. 20.	Great Falls, Mont.	Feb. 10
Feb. 21.	Parkersburg, W. Va.	Jan. 27
Feb. 22.	Grundy, Va.	Jan. 20
Feb. 23.	Olean, N. Y. Adv. Feb. 3.	Feb. 3
Feb. 25.	San Francisco, Cal.	Feb. 10
Feb. 25.	Geismar, La.	Feb. 10
Feb. 26.	Seattle, Wash.	Jan. 27
Feb. 26.	Wallace, Idaho	Feb. 10
Feb. 26.	Fitchburg, Mass.	Feb. 10
Feb. 27.	Seattle, Wash.	Jan. 27
Feb. 28.	Tompkinsville, Ky.	Jan. 27
Feb. 28.	Whitley City, Kan.	Jan. 27
Feb. 28.	Jacksonville, Fla.	Feb. 3
Mar. 1.	Manchester, Conn.	Jan. 20
Mar. 1.	Roanoke, Ala. Adv. Feb. 10.	Feb. 10
Mar. 2.	Tompkinsville, Ky.	Jan. 27
Mar. 15.	Cadiz, O.	Jan. 27
Mar. 18.	Kent, O.	Dec. 30
Mar. 20.	Olive Hull, Ky.	Feb. 10
Mar. 23.	Jamestown, Ky.	Feb. 10
Mar. 24.	Wayland, Ky.	Feb. 10
Mar. 24.	Hyden, Ky.	Feb. 10
Mar. 30	Canton, Ill.	Jan. 20
Mar. 30.	Naperville, Ill.	Jan. 27
Apr. 1.	Virginia, Ill.	Jan. 13
Apr. 3.	Madisonville, Wis.	Jan. 27
———	Hoopton, Ill. Adv. Jan. 27.	Jan. 27

INDUSTRIAL PLANTS AND WAREHOUSES

Feb. 15.	Miami, Fla. Adv. Jan. 27, Feb. 3.	Jan. 27
Feb. 15.	Flint, Mich.	Feb. 10
Feb. 16.	Seattle, Wash.	Jan. 13
Feb. 26.	Vallejo, Cal.	Jan. 27
Mar. 1.	Lenox, Ky.	Feb. 3

BUILDINGS
Public and Private

Feb. 13.	Industry, N. Y. Adv. Jan. 13.	Jan. 13
Feb. 13.	Detroit, Mich.	Jan. 13
Feb. 13.	West Minneapolis (P. O. Hopkins), O.	Jan. 20
Feb. 13.	Owatona, Minn.	Feb. 10
Feb. 14.	Ripley, W. Va.	Jan. 13
Feb. 14.	Morgantown, W. Va. Adv. Jan. 6.	Jan. 6
Feb. 14.	Thiells, N. Y. Adv. Jan. 27, Feb. 3.	Jan. 27
Feb. 14.	Port Henry, N. Y.	Jan. 27
Feb. 14.	Vinton, Ia.	Feb. 10
Feb. 15.	Escanaba, Mich.	Dec. 30
Feb. 15.	Sioux City, Ia.	Jan. 27
Feb. 15.	Laurel, Miss.	Feb. 3
Feb. 15.	Springfield, Mass.	Feb. 10
Feb. 15.	Elizabethtown, Pa.	Feb. 10
Feb. 16.	McComb, Miss.	Jan. 6
Feb. 16.	Holyoke, Mass.	Jan. 27
Feb. 16.	Cleveland, O.	Feb. 3
Feb. 16.	North Hampton, O.	Feb. 10
Feb. 17.	Dawson, Minn.	Feb. 3
Feb. 17.	Bridgeport, Conn.	Feb. 10
Feb. 19.	Barnesville, Ga.	Jan. 6
Feb. 19.	Newport, R. I.	Jan. 27
Feb. 19.	Cleveland, O.	Feb. 10
Feb. 20.	Des Moines, Ia.	Jan. 20
Feb. 20.	Albany, N. Y.	Feb. 3
Feb. 20.	Leesburg, Ga.	Feb. 3
Feb. 20.	Iowa City, Ia.	Feb. 10
Feb. 20.	Frankford, Pa.	Feb. 10
Feb. 20.	New Market, N. J.	Feb. 10
Feb. 20.	Butte, Mont.	Feb. 10
Feb. 21.	Mena, Ark.	Jan. 30
Feb. 21.	Detroit, Mich.	Feb. 10
Feb. 23.	Caribou, Me. Adv. Jan. 20, 27.	Jan. 20
Feb. 23.	Geneva, N. Y. Adv. Feb. 10.	Feb. 10
Feb. 23.	Greenville, Pa.	Feb. 10
Feb. 26.	Miami, Fla.	Jan. 30
Feb. 26.	Bartow, Fla.	Jan. 27
Feb. 26.	Willows, Cal.	Feb. 10
Feb. 26.	Bartlesville, Okla.	Feb. 10
Feb. 27.	Stanford, Fla.	Jan. 27
Feb. 28.	Ft. Morgan, Colo.	Jan. 27
Feb. 28.	Kings Park, N. Y.	Feb. 10
Mar. 1.	Rochester, Minn.	Jan. 6
Mar. 1.	Butte, Mont.	Jan. 20
Mar. 1.	De Land, Fla. Adv. Jan. 20, 27.	Jan. 20
Mar. 1.	Beeville, Tex. Adv. Jan. 27, Feb. 3.	Jan. 27
Mar. 1.	Farrell, Pa.	Feb. 10
Mar. 1.	Rochester, N. Y.	Feb. 10
Mar. 3.	Basin, Wyo.	Feb. 3
Mar. 5.	Comfrey, Minn.	Jan. 27
Mar. 5.	New Orleans, La. Adv. Feb. 10.	Feb. 10
Mar. 6.	Madison, S. D.	Feb. 3
Mar. 6.	Savanna, Ill.	Feb. 3
Mar. 6.	Chicopee, Mass.	Feb. 10
Mar. 7.	Bay City, Tex. Adv. Feb. 3, 10.	Feb. 3
Mar. 8.	Sergent Bluff, Ia.	Feb. 10
Mar. 9.	Hammond, La. Adv. Feb. 3, 10.	Feb. 3
Mar. 12.	Martin, Tenn.	Feb. 3
Mar. 13.	Hiawatha, Kan.	Feb. 3
Mar. 18.	Pulaski, Va.	Feb. 3
May 1.	Minneapolis, Minn.	Nov. 25

FOUNDATIONS, PIERS AND DAMS

Feb. 16.	Seattle, Wash.	Feb. 3
Mar. 8.	Grand Rapids, Mich. Adv. Feb. 10.	Feb. 10
Mar. 15.	Pensacola, Fla.	Feb. 10

EXCAVATION, DREDGING AND DRAINAGE

Feb. 13.	Primghar, Ia.	Feb. 3
Feb. 15.	Mankato, Minn.	Feb. 10
Feb. 16.	Blue Earth, Minn.	Feb. 10
Feb. 19.	Waterford, Cal.	Jan. 27
Feb. 19.	Wilmington, Del. Adv. Jan. 27, Feb. 10.	Jan. 27
Feb. 19.	Woodbury, N. J.	Jan. 27
Feb. 19.	Wilmington, Del.	Feb. 3
Feb. 19.	Stone Harbor, N. J.	Feb. 10
Feb. 19.	Mason City, Ia.	Feb. 10
Feb. 19.	Grand Rapids, Minn.	Feb. 10
Feb. 20.	Garden Prairie, Ill.	Feb. 3
Feb. 21.	Pipestone, Minn.	Feb. 10
Feb. 23.	Crookston, Minn.	Jan. 27
Feb. 23.	Bemidji, Minn.	Feb. 10
Feb. 23.	Passaic, N. J. Adv. Jan. 27, to Feb. 10.	Jan. 27
Feb. 27.	Olivia, Minn.	Feb. 10
Mar. 7.	Alexandria, La.	Jan. 13
Mar. 8.	Baltimore, Md.	Feb. 10
Mar. 15.	Neoedesha, Kan.	Jan. 27
Mar. 15.	Cedar Rapids, Ia. Adv. Feb. 10.	Jan. 27
Mar. 20.	Vallejo, Cal.	Feb. 10

MISCELLANEOUS

Feb. 13.	Crushed Stones, Millburn, N. J.	Feb. 3
Feb. 13.	Stack, Asbury Park, N. J.	Feb. 3
Feb. 14.	Lock Gate Machinery, Pittsburgh, Pa. Adv. Jan. 20 to Feb. 10.	Jan. 20
Feb. 14.	Steel Pipe, Schenectady, N. Y. Adv. Feb. 3.	Feb. 3
Feb. 15.	Crushed Stone, Flemington, N. J. Adv. Feb. 3, 10.	Feb. 3
Feb. 15.	Road Oil, Fresno, Cal.	Feb. 3
Feb. 15.	Crane, Miami, Fla.	Feb. 10
Feb. 15.	Incinerator, Tulsa, Okla.	Feb. 10
Feb. 16.	Flight Conveyor, Summerland, Cal. Adv. Feb. 10.	Feb. 10
Feb. 17.	Crushed Stone, Kankakee, Ill.	Feb. 10
Feb. 19.	Air Compressors, Air Locks, Etc., New Orleans, La. Adv. Jan. 13, 20.	Jan. 13
Feb. 19.	Cranes, Washington, D. C.	Feb. 3
Feb. 26.	Bucket Dredge, Vallejo, Cal.	Feb. 3
Feb. 26.	Asphalt, St. John, N. B.	Feb. 3
Feb. 29.	Sprinkler, Great Falls, Mont. Adv. Feb. 10.	Feb. 10
Mar. 5.	Horses and Props, Louisville, Ky. Adv. Feb. 10.	Feb. 10
Mar. 16.	Hydraulic Lift, Philadelphia, Pa. Adv. Feb. 10.	Feb. 10

Virtual Blockade May Increase Car Shortage

Situation Better for Lumber Mills, While Orders Are Far Heavier Than Last Fall—Balance of Steel Orders Declines

THE LARGE NUMBER of American and other neutral cargo vessels tied up in our ports because of the fact that this government has not yet announced any definite policy for their protection against German submarine raids, may cause further railroad traffic congestion and delay improvement in the car situation, unless action is taken shortly which will result in these vessels clearing for their destinations. It is pointed out in this connection that, purely as a result of inability to move the goods if the present situation continues, price levels of materials which have figured heavily in our exports, of late, may be lowered, while prices of materials which we import may rise. The opinion continues to be expressed by some well-informed economists that Germany is nearer exhaustion than is generally believed, and on that account is attempting to draw the United States into the struggle for her own advantage, knowing that it cannot be prolonged. The same men, however, hold that even should 1917 see peace declared, unusual activity in general business, and especially in construction work, should prevail at least during the first half of the year.

As foreshadowed by information reaching this journal last fall, lumber orders have increased greatly during the past few weeks, especially at mills producing yellow pine. Orders received at about 150 of these mills have been considerably in excess of normal for the fourth consecutive week, and while shipments have approached normal during the same period, there is still an extraordinary balance of unfilled orders on hand. With Western mills sawing fir, orders received during the same period, while not up to normal, have shown very considerable improvement. On the other hand, the car situation is still acute in this territory, and cold weather is making production expensive.

For the first time in recent months the unfilled tonnage of the U. S. Steel Corporation shows a decrease, being slightly below the new record established on the first of the year.

Buildings

Building construction noted in this issue includes the following:

	Kind	Cost
Contract awarded:		
Toronto, Ont.	Military plant	$3,000,000
Bid desired:		
Omaha, Neb.	Hotel	400,000
Proposed work:		
Princeton, N. J.	Railroad stations	350,000
Philadelphia, Pa.	Apartment house	2,000,000
Augusta, Ga.	Hotel	350,000
Iowa City, Ia.	University buildings	300,000
Spokane, Wash.	Business buildings	400,000
Martinez, Cal.	Refinery	500,000

Roads and Paving

Highway projects noted in this issue include the following:

	Kind	Cost
Contracts awarded:		
Wilson, N. C.	Asphalt	$350,000
DeQueen, Ark.	Macadam	140,000
Bids desired:		
East Rochester, N. Y.	Paving	100,000
St. Louis, Mo.	Paving	110,000
Proposed work:		
Somerville, Mass.	Highway	450,000
Mayo, Fla.	Highway	250,000
Zanesville, Ohio	Highway	300,000
Cincinnati, Ohio	Road work	600,000
Champaign, Ill.	Road work	1,653,000
Pontiac, Mich.	Brick	192,000
Sacramento, Cal.	Concrete	1,750,000

Waterworks and Sewers

The larger projects noted in this issue are summarized in the table below:

	Kind	Cost
Bids opened:		
Hamilton Township, Pa.	Sewers	$247,000
St. Paul, Minn.	Reservoir	251,000
Bids desired:		
Niagara Falls, N. Y.	Sewers	150,000
Proposed work:		
Chicopee, Mass.	Waterworks	200,000
Stratford, Conn.	Sewers	300,000
Sidney, N. Y.	Waterworks	160,000
Syracuse, N. Y.	Sewer	205,000
Rochester, N. Y.	Disposal plant and waterworks	175,000
York, Ont.	Waterworks	246,000

Miscellaneous Headings

The lowest bid received at Philadelphia for constructing three sections of the delivery loop of the new subway was $5,784,000. Bids will be opened March 15, at Fort Laramie, for reclamation work involving more than two and a quarter million yards of excavation. A contract will be let March 2 at Seattle for constructing a $200,000 bridge substructure. Bids for the $900,000 tunnel to be built at Los Angeles will be opened Feb. 26.

It is reported that work will start soon on the construction of a $1,000,000 railway line near Charleston, W. Va., and a company has been organized to construct 60 miles of railroad near Pearson, La. A hydroelectric development and railroad proposed at Edith, Mo., will cost $4,000,000. Plans have been prepared for improving at a cost of $300,000 a bridge at Little Rock, Ark. It is reported from Bozeman, Mont, that $2,000,000 will be expended on a 33-mile railroad cutoff.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK

Chicopee, Mass.—Frank P. Cobb, city engr., estimates cost of standpipe and new water mains contemplated by City Council at $200,000; plans also being prepared for sewer for district bordering upper Chicopee St.

Chicopee, Mass.—Water Dept. plans erecting 2 new stand pipes and installing water mains to cost $200,000. F. P. Cobb, city engr.

Sherborn, Mass.—Election to be held in March on question of issuing $35,000 bonds to be used for laying 5 miles of 6 and 8-in. c. i. pipe, 37 manholes, valves, etc.

Central Falls, R. I.—S. P. Cumings, city engr., completed plans for sewer to be constructed in Hunt St., from Illinois to Dexter St., during coming season.

Stratford, Conn.—Bill introduced in House to permit town to issue $300,000 bonds for construction of sewers for Hollister Heights and outlying districts.

Dansville, N. Y.—Election will soon be held in village to vote on issuing $12,000 bonds for water supply extensions.

Gloversville, N. Y.—Plans being prepared for 100,000,000-gal. storage reservoir; cost about $40,000.

Lynbrook, N. Y.—Construction of waterworks, sewer system and sewage disposal plant being considered. Frank H. Johnson, village clk.

Rochester N. Y.—Bonds for $100,000 sold for sewage disposal plant and $75,000 for waterworks improvement.

Sidney, N. Y.—Village has voted $165,000 bonds to be used for waterworks.

Syracuse, N. Y.—City Engr. H. A. Allen estimates cost of constructing eastern section of 17th Ward sewer at $205,000; it will be about 14 miles long and includes straightening of channel of Meadow Brook and lining it with concrete and 1400 ft. of tunnel where the sewer will pass through a hill; invert or floor of tunnel will be concrete and roof of rock. Contractors will be given the option of making an open trench instead of the tunnel.

Mendham, N. J.—Boro. considering construction of 7,000,000-gal. reservoir; also laying 14,000 ft. 8-in. pipe line extensions. Leo Tobinson, boro. clk.

Ocean City, N. J.—Special election Feb. 27 to vote on question of issuing $14,000 bonds for new surface water drain on 12th St.

Dallastown, Pa.—Boro. Council will probably soon call election to vote on question of constructing waterworks.

Erie, Pa.—Gannett, Seelye & Fleming, Harrisburg, are consulting engrs. for sewage disposal plant and intercepting sewers to be constructed here.

Monaca, Pa.—City Council considering extensive improvements to sewers, also increase of water supply, including new pump and 1,000,000-gal. reservoir. Michael Baker, boro. engr.

Sayre, Pa.—Plans being prepared for sewer system and sewage disposal plant; cost about $40,000. R. R. Fernow, engr., Weightman Bldg., Philadelphia.

West Chester, Pa.—Plans being prepared by N. R. Rambo, boro. engr., for a sanitary sewer pumping station to be erected early in spring.

Williamsport, Pa.—City Council reported considering construction of municipal waterworks or the purchase of property of Williamsport Water Co.

Petersburg, Va.—John E. Harvell, chmn. sewer and water comn., estimates cost at $51,097 for construction of city water mains and sewers.

Fairmont, W. Va.—Plans being prepared for sanitary sewer system and sewage disposal plant; cost about $30,000. S. B. Miller, engr.; Albert J. Kern, city clk.

Chesterfield, S. C.—McCrary Eng'g Co., Atlanta, Ga., reported preparing plans for waterworks and sewer system. Town council has petitioned state legislature for permission to issue bonds for construction.

Fountain Inn, S. C.—Town will petition State Legislature for permission to issue $50,000 bonds for waterworks and sewers.

Tennille, Ga.—City considering construction of waterworks; cost, about $25,000.

Monroe, La.—City Council considering calling an election to vote bonds for drainage, sewer system, waterworks, street improvements.

Cleveland, Miss.—City has engaged Kearney-Speed Eng. Co., 1212 Exchange Bldg., Memphis, Tenn., to prepare plans for sewer system.

Nashville, Tenn.—According to estimates of City Engr. W. W. Southgate, submitted to the bd. of city comrs. and commercial club committee on sewers at a recent conference at mayor's office it would cost $1,351,937 to furnish sewerage facilities to sections of the city where there are now no sewers.

Springfield, Tenn.—Water bonds for $36,000 will be sold Feb. 20 by Chas. E. Bell, mayor.

Auburn, Ky.—City considering construction of waterworks. H. B. McClary, city clk.

Clifton, Ky.—Geo. Lindsay, city engr., preparing plans for trunk sewer system for district which will extend through the mill bottoms to the Ohio River; cost about $200,000.

Belleville, O.—City has engaged W. J. Sherman Co., 613 The Nasby, Toledo, to prepare plans for an improved water supply.

Dayton, O.—City Waterworks Dept. planning construction of several large reservoirs in various sections of city to aid in distribution of water supply. Leonard Metcalf, engr., 14 Beacon St., Boston, Mass.

Lakewood, O.—City considering construction of sewage treatment plant; cost, about $40,000. E. A. Fisher, city engr.

Lima, O.—Water bonds for $30,000 will be sold Feb. 26 by D. L. Ruppert, city aud.

Salem, O.—W. J. Sherman Co., 613 The Nasby, Toledo, has been engaged by city to prepare plans and estimates for reconstruction of sewage disposal plant.

Sebring, O.—A filtration plant may be constructed by Mellon Co., of Pittsburgh, owners of the Sebring Water Co.

Wauseon, O.—Village has engaged W. J. Sherman Co., 613 The Nasby, Toledo, to prepare preliminary plans and estimates for an improved water supply.

Alma, Mich.—City considering construction of new pumping station, standpipe, wells, pump and all necessary equipment. Carl E. Gallagher, city clk.

Lowell, Mich.—City considering construction waterworks; cost, about $60,000.

North Branch, Mich.—Contract will soon be let for about 3000 ft. of 8-in. sewer with 9 manholes. F. A. Sicklested, village engr.

Alton, Ill.—City considering construction of trunk sewer to cost $100,000. Edmond Beall, mayor.

Farmington, Ill.—Geo. F. Hubbard, city clk., writes H. W. Clark Co., of Mattoon, are preparing plans, specifications and estimated cost of waterworks improvements, consisting of deep well, reservoir, tower and laying mains, etc. Election will probably be held in April to issue bonds.

Findlay, Ill.—Village considering construction of sewer system; cost about $30,000. R. A. Miller, engr., Decatur.

Quincy, Ill.—Public meetings approve sewer improvements in Maine, Hampshire, 24th, 25th, Oak, Maple and other streets; cost about $14,658.

Warsaw, Ill.—City considering construction of waterworks. Wm. L. Hill, mayor.

Wenona, Ill.—Election will be held this spring to vote $14,000 bonds to extend water system, including new well and repair of pipes. Hall, Moose and Martin, Bloomington, attys.

Madison, Wis.—Plans being prepared by Gordon, Balch & Lippert, archts., Wisconsin Bldg., for remodeling waterworks; cost about $240,000.

Audubon, Ia.—Reported that 1000 ft. of water mains and an elevated tower being considered. A. Segel, city engr.

Denison, Ia.—City considering sewer improvements during year. Frank Woolston, city engr.

Messena, Ia.—C. McBride, city clk., writes 24 blocks of water mains will be laid and 50,000-gal. tank, 78 ft., high, will be installed; cost about $17,000.

St. Paul, Minn.—City Council has approved plans for construction of sewers on Saratoga, Minnehaha and Louth Sts., and Lexington, Capital, Snelling, White Bear, Pascal, Doswell and Asbury Aves.

Ellsworth, Kan.—City considering construction of storm sewer; cost, about $70,000. Black & Veatch, engrs., 507 Interstate Bldg., Kansas City, Mo.

Kansas City, Kan.—Survey being made in Argentine for a site to be used for a 10,000,000-gal. concrete reservoir to supply Kansas City and Rosedale. Louis M. Chapman, water & light comr.

Nashville, Ark.—Bonds for $100,000 sold by city to be used for waterworks and sewer system; plans prepared by Winters & Dove, Ft. Smith; sewer system will consist of 8-mile line and laterals, from 8 to 15-in.; water system, 10 miles of line, 2 to 8-in. water mains, hydrants, gate valves, wells, concrete reservoir, capacity 150,000 gals., elevated steel tank, etc.

Athens, Tex.—Bonds for $32,000 sold by city to be used for waterworks improvements and constructing sewer system at an early date.

Beeville, Tex.—City planning construction of waterworks. John S. Fenner, city engr.

Big Springs, Tex.—Henry E. Elrod, Interurban Bldg., Dallas, has been engaged to prepare plans for sewer system and waterworks.

El Paso, Tex.—See "Excavation Drainage & Dredging."

La Grange, Tex.—Contract soon to be let for constructing sewage disposal plant. Ed. Mattingly, city secy.

Marlin, Tex.—City has selected site for construction of sewage disposal plant, survey now being made. Construction will be started in about 30 days.

Midland, Tex.—Henry E. Elrod, Interurban Bldg., Dallas, has been engaged by city to prepare plans for sewer system and waterworks.

Waco, Tex.—See "Miscellaneous."

Waxahachie, Tex.—Atty. General's Dept., Austin, has approved following bond issues: $20,000, sewers; $10,000 streets; $90,000, schools.

Commerce, Okla.—Town considering question of constructing sewer system.

Okemah, Okla.—Election soon to be called to vote on question of issuing $50,000 bonds for constructing sewer system. Benham Eng. Co., Oklahoma, to prepare plans and specifications and supervise construction.

Camas, Wash.—Council accepted plans and contracts will soon be let for materials and installation of municipal waterworks. Plans provide for 3 types of reservoir, which will be concrete, capacity 700,000 gal.; work includes headworks, pipe line 7 miles long and rearrangement of existing distribution system, which will be taken over from private interests; cost between $75,000 and $100,000. L. B. Wickersham, cons. engr., Chamber of Commerce Bldg., Portland, Ore.

Camas, Wash.—L. B. Wickersham, engr., Chamber of Commerce Bldg., Portland, Ore., completed plans and estimates for construction of municipal waterworks; cost, between 80,000 and $100,000; work includes pipe line, reservoir and local distributing system.

San Francisco, Cal.—In the annual report of M. M. O'Shaughnessy, city engr., the sum of $11,000,000 is requested to continue work on the Hetch-Hetchey water supply project, including $6,000,000 for aqueduct, $4,000,000 for a dam.

Ventura, Cal.—Plans being prepared by City Engineer for sewerage system; cost about $10,000. City Trustees considering election to vote bonds for constructing this improvement; also for storm sewer and culverts; cost about $30,640.

Yuma, Ariz.—F. E. Trask, engr., Union Bank Bldg., Los Angeles, Cal., engaged by city to make estimates of cost of constructing municipal waterworks and light plant.

Montreal, Que.—City Council reported to have decided to construct sewer in St. Patrick St., to cost $35,000.

Noninique, Que.—Roy & Toupin, engrs., 72 Notre Dame St., E. Montreal, are preparing plans for aqueduct to cost $25,000. Work to start in spring.

Hamilton, Ont.—See "Roads and Paving."

York, Ont.—Contract will soon be let for constructing waterworks; cost, about $245,830. F. Barber, engr., 57 Adelaide St., E. Toronto.

Edmonton, Alta.—City considering installation of chlorine sterilization plant at waterworks to treat 6,000,000 gal. of water. A. G. Harrison, city comr.

BIDS DESIRED

Boston, Mass.—Until Feb. 20, by Edward F. Murphy, comr. pub. wks., for furnishing 150 Boston post hydrants, 375 Boston valves of from 6 to 12 in.

New York, N. Y.—Until Mar. 6, by Bd. Water Supply, Municipal Bldg. (George Featherstone, secy.) for Cont. AH for furnishing and delivering liquid chlorine for use at Kensico Screen chamber of Catskill Aqueduct.

Until Feb. 26, by William Williams, comr. water supply, gas and electricity, for furnishing, delivering and unloading, stacking and storing c. i. pipe and valve boxes, castings for Brooklyn and Richmond Boros.; security $8,000.

Niagara Falls, N. Y.—Until Feb. 24 by O. E. Carr, city mgr., for constructing sewers and appurtenances; work includes about 6760 lin. ft. of from 42 to 72-in. pipes; advertised in this issue.

Ogdensburg, N. J.—Until Mar. 15, by L. A. Sweeney, for constructing waterworks and 300,000-gal. capacity reservoir; Wm. N. Harris, boro. clk.; Jas. B. Rider, 29 Bway, N. Y., engr.

McKeesport, Pa.—Until March 12 by City Council (C. E. Soles, controller) for about 24,000 lin. ft. of from 8-in. to 24-in. vitr. tile sanitary sewers and necessary 5-in. "Y" branches and manholes; advertised in this issue.

Washington, D. C.—By Samuel McGowan, paymaster gen. of navy, Bureau Supplies and Accounts, Navy Dept., for Sch. 745, Vallejo, steel pipe; Sch. 729, Philadelphia, seamless steel tubing; Sch. 740, Brooklyn, N. Y., water heater valves; Sch. 733, Charleston, S. C., two centrifugal flushing pumps.

Clarksdale, Miss.—Until Feb. 27 by City Comrs. (W. W. Pointer, supt. water and light dept.) for sale of used equipment; advertised in this issue.

Cleveland, O.—Until Feb. 21, by Comr. Purchase and Supplies, 319 City Hall, for constructing sewers in Coit Road, E. 30th, E. 103rd, E. 113th and other streets.

Portage, Wis.—Reported desired until Mar. 1 for constructing filter plant; cost $30,000. Address L. P. Wolff, Germania Bldg., engr.

Denver, Ia.—Until Feb. 24, by F. T. Farnsworth, town clk., for constructing sanitary sewer system and disposal plant; work includes 16,000 ft. of 6 to 12 in. pipe; G. H. Bishop, city engr., Oelwin.

Larned, Kan.—Until Feb. 26, by L. D. Bingers, city clk., for constructing sewer and sewer pumping plant; cost about $27,500.

Castlewood, S. D.—Until March 7, by Castlewood Waterworks system, bonds for about $20,000 will be issued for this work: Freed & Sours, Inc., contr. engrs., Watertown; two separate contracts to be let, one including pumping equipment.

Beaumont, Tex.—Until Feb. 20 by J. G. Sutton, city secy., for laying 28,000 ft. of from 6 to 8-in. water pipes, including all necessary lead and caulking jute and placing of seven 6-in. valves, etc.; advertised in this issue.

Stroud, Okla.—Until Feb. 23, by town for furnishing material and equipment for waterworks and electric light; Benham Engr. Co., const. engrs., Oklahoma City.

Anaheim, Cal.—Reported desired until Feb. 23, by Edward B. Merritt, city clk., for constructing, on concrete foundation, motor driven pumping plant with a capacity of 1500 gal. per min. at a pressure of 125 lb. per sq. in.

Tecumseh, Ont.—Reported desired until March 1, by R. W. Code, Bd. Trade Bldg., Windsor, engr., for 2 centrifugal pumps and motors installed complete (hor. split casing type) of 250 gal. per minute capacity for Eau Claire Waterworks Co., Ltd.; cost about $20,000.

PRICES AND LETTINGS

★*Indicates award of contract.*

Hamilton Township, Pa.—Following are lowest bids opened Feb. 1 for following 3 sections of sewers: Breslau, 1st section; Lee Park, 2d section; Newtown, 3d section of Hamilton Township, to be about 14 miles in length: Martin & Miller, Caldwell, N. J., bid lowest at $246,799 for all 3 sections; Jos. Banks Constr. Co., Wilkes-Barre, in 1st section bid lowest at $101,220, and low for tile on second section, $76,589 (probably awarded contract); in 2d section the low bid was B. G. Coon Constr. Co., on concrete pipe sewer at $75,438; 3d section, M. J. Malloy of Sugar Notch lowest at $60,482.

St. Paul, Minn.—Following are unit figures and totals of 4 lowest bids opened Feb. 5 by Purch. Agt., City Hall, for constructing reinforced concrete high service reservoir: (a) G. J. Grant Constr. Co., 902 New York Life Bldg., St. Paul, $246,054 (b) Winston Bros. Co., 801 Globe Bldg., Minneapolis, $251,319; (c) Wm. P. Cowles, 3227 Portland Ave., Minneapolis, $254,090; (d) Siems, Helmers & Schaffer, 514 Germania Life Bldg., St. Paul, $266,519. (Engineer's estimate $243,591.)

		(a)	(b)	(c)	(d)
4¼	acres clearing and grubbing	$80.00	$120.00	$49.00	$100 00
90,620	cu. yd. earth excavation	0.24	0.29	0.294	0.26
14,500	cu. yd. clay blanket under reservoir	0.80	0.81	0.80	0.70
10,552	ton mi. sprinkling and rolling found. and embkt.	0.30	0.62	0.39¼	0.50
1,700	cu. yd. backfilling outside of walls	0.80	1.10	1.22	0.70
99,800	cu. yd. earth embkt. and fill over structures	0.52	0.70	0.39¼	0.50
4⅓	acres seeding	35.00	50.00	62.55	50.00
12,800	sq. yd. sodding	0.25	0.23½	0.22	0.25
4,633	cu. yd. concr. inverted groined arch floor, 1:2:4.	4.52	5.90	5.64	5.50
3,831	cu. yd. concr. groined, cloistered and barrel arch roof	9.67	5.90	10.88	11.60
2,580	cu. yd. concr. flat slab footings for outside walls	4.79	5.90	4.66	5.00
3,049	cu. yd. concr. outside wall-slabs and buttresses.	7.72	5.90	8.46	8.70
2,734	cu. yd. concr. division or center wall	5.52	5.90	6.14	5.55
1,503	cu. yd. concr. columns	12.60	5.90	12.55	10.90
317	cu. yd. concr. conduits and sumps	11.63	5.90	9.81	11.65
617	cu. yd. concr. inlet and outlet gate chambers and aerator	9.07	5.90	10.18	10.00
95	sq. yd. concr. special finishing on floors	1.00	0.58	0.80	1.00
27,567	lb. steel reinforcement, ½ in., sq. rods	0.007½	0.01	0.0092	0.011
154,383	lb. steel reinforcement, ⅝ in., sq. rods	0.007½	0.01	0.0092	0.011
579,332	lb. steel reinforcement, ¾ in., sq. rods	0 007½	0.01	0.0089	0.011
124,267	lb. steel reinforcement, ⅞ in., sq. rods	0.007½	0.01	0.0088	0.011
204,380	lb. steel reinforcement, 1 in., sq. rods	0.007½	0.01	0.0086¼	0.011
16,510	lb. misc. steel & wrt. iron work (iron, 3871 lb.)	0.13	0.16	0.104	0.14
16,510	lb. misc. steel & wrt. iron wk. (steel, 12,640 lb.)	0.13	0.16	0.104	0.14
1,267	lb. or 650 lin. ft. copper & asphalt exp. jts. (copper, per lb.)	0.64	0.779	0.82	0.75
19,300	lin. ft. wooden expansion joints in footings, etc.	0.06	0.035	0.068	0.06
8	setting 48" circular flanged sluice gates	50.00	30.00	46.60	72.00
2	setting 48" x 48" spigot in conc. sluice gates	50 00	34.00	49.00	72.00
1	setting 48" double hub gate valves	62.00	9.50	73.60	72.00
1	setting 24" flanged gate valves	30.00	5.00	22.10	25.00
4	setting 6" double hub gate valves	10.00	2.50	5.00	7.00
1 T. spec.	Laying & erecting c. i. pipe and specials, 6" to 20" diam., incl.	20.00	9.50	11.00	25.00
5 T. pipe	Laying & erecting c. i. pipe and specials, 6" to 20" diam., incl.	12.00	9.50	11.00	25.00
37 T. spec.	Laying & erecting c. i. pipe and specials, 24" to 48" diam., incl.	12.50	7.00	9.80	25.00
105 T. pipe	Laying & erecting c. i. pipe and specials, 24" to 48" diam., incl.	10.00	7.00	8.00	25.00
1 ton	furnish and erect. c. i. stop plank grooves.	162.00	175.00	122.65	160.00
6,250	lb. furnish and erect. misc. castings	0.10	0.13	0.11	0.10

New York, N. Y.—Following are totals of 4 lowest bids opened Feb. 7 by W. Williams, comr. water supply, gas and electricity, for laying water mains in Elmwood, W. 155th St., 1st Ave., Boro. of Manhattan, and Crotona Pl., Digney, Dyre Aves., Grand Boulevard and other streets in Boro. of Bronx: Santor Constr. Co., Times Bldg., $31,906; John A. Gregory, 212 W. 138th St., $32,194; Knight & De Micco, Inc., 2353 Washington Ave., $35,000; James McAvoy, 303 E. 127th St.,

Cincinnati, O.—Only bid opened Feb. 9 by Chas. F. Hornberger, service dir., for 4000 tons of sulphate of iron for waterworks filtration plant was that of American Steel & Wire Co., Chicago, Ill., at $16.80 per ton; bids opened for lump lime for filtration plant from Southern States Lime Corporation, Charleston, S. C., at $6.20 per ton; Moores-Coney Co., St. Paul Bldg., Cincinnati, at $8.40 per ton.

★**Cleveland, O.**—Contract awarded by city (bids opened Jan. 17) for fire hdyrants for Division of Water, to R. D. Wood & Co., Philadelphia, Pa., at $21,782.

★**Youngstown, O.**—Contracts awarded by city Jan. 26 for constructing sewers as follows: Belle Vista Ave. sewer to Clyde Harris, Laclede St., $19,447; Market St. sewer to Central Constr. Co., Federal Bldg., $15,792; Willis and Richview Aves., A. O'Horo, Scott St., $7,344 and $3,136 respectively. Bidders all of Youngstown. Ed. L. McLean, clk. eng. dept.

★**Burlington, Ia.**—Contract awarded (bids opened Feb. 5) for storm water and sanitary sewer to Young & Buscher Concrete Co. at $1.06 per ft. C. E. Waterhouse, city engr.

★**Great Falls, Mont.**—Contract awarded by city for constructing water purifying plant to Grant Smith & Co., Henry Bldg., Seattle, Wash., at $25,000.

★**Kansas City, Mo.**—Contract awarded by city for constructing sewers in Dist. No. 348, Div. 4, to Halpin Boyle Constr. Co., 709 Railway Exchange Bldg., at $78,853.

★**Beaumont, Tex.**—Contract awarded by city for extension of water and sewer mains to connect with school in South Park to Houston Constr. Co., Houston, at $23,000.

San Francisco, Cal.—Contract awarded by city for constructing sewers in portions of Crizaba, Stanley St. and in Merced lands of Spring Valley Water Co., to D. L. Bienfield, Phelen Bldg., at 28,512.

Toronto, Ont.—See "Buildings."

REINFORCED CONCRETE

PROPOSED WORK

Boston, Mass.—Reported Armour & Co., 43 Commercial St. plans erecting 5-story reinforced concrete warehouse, 100 x 100 ft.

Biglerville, Pa.—Plans will be completed about March 2nd for erecting 2-story 44 x 77 ft. brick and concrete school building by Hauer & Mowere, Lebanon, Pa..

Doylestown, Pa.—County Comrs. intend constructing new concrete bridge over north branch of Neshaminy River at Cope's Ford, in New Britain township.

Harrisburg, Pa.—County Comrs. intend constructing concrete bridge, 288 ft. long at Lyonsville, near Hershey and 2 concrete bridges with I-beams, 46 ft. long, one near Killinger over Little Wiconisco Creek, other near Sand Beach, over Manada Creek, for which contracts will be awarded this spring, and repairing 13 iron and 9 wooden bridges.

Manheim, Pa.—Contracts about to be awarded by Philadelphia & Reading RR. (Sam. T. Wagner, ch. engr., Reading Terminal Bldg., Philadelphia, Pa.) to construct two 70-ft. concrete bridges near here and concrete and steel bridge near Harpers.

Reading, Pa.—Contracts will probably be awarded by Co. Comrs. about March 1, for constructing Poplar Neck reinforced concrete bridge; bids will be asked for bridge with three 90-ft. spans and viaduct approach, also for bridge with one 300-ft span and viaduct approach. O. F. Sanders, co. engr.

Nashville, Tenn.—All bids opened by U. S. Engrs. Office, Jan. 30, for constructing concrete lock F, Cumberland River, have been rejected as excessive.

Milwaukee, Wis.—Illinois Steel Co., 725 First Natl. Bank Bldg., contemplates replacing its wooden dock of Bay View branch with a 600 ft. reinforced concrete dock, to cost about $50,000. R. B. Charlton, supt., taking bids.

Sioux City, Ia.—Bd. Supervs. intend constructing 40 concrete bridges ranging in size from small box culverts to 70-ft. trusses and 12 miles of permanent roads; estimated cost $100,000.

Minot, Minn.—Reported Second National Bank will erect steel and reinforced concrete bank building to cost $250,000.

Seattle, Wash.—Plans being prepared by J. L. McCauley, New York Block, for erecting 5-story 105 x 120 ft. addition to Busch Hotel at Maynard Ave. and Jackson St. for the Rainer Heat & Power Co.; structure will be of reinforced concrete, faced with brick and terra cotta, and will cost $150,000. Bids about April 1.

Oregon City, Ore.—Plans prepared and approved by U. S. Engrs. for completing Oregon City locks to consist of concrete dividing wall, about 1200 ft. long, of which 1010 ft. has been completed; remainder including gates, etc.; cost $100,000.

Long Beach, Cal.—Plans prepared by City Engineer for constructing combined reinforced concrete seawall, 1766 lin. ft., 51,199 sq. ft. reinforced concrete sidewalk, 22 concrete light posts and 3,[illegible]2 cu. yd. fill, etc. H. C. Waughop, city clk.

Los Angeles, Cal.—Plans being prepared by W. J. Dodd and William Richards, archt. and engr., 609 Brockman Bldg., for erecting 7-story 128 x 92 ft. reinforced concrete store and loft building on 7th St., near Olive St., for Huntsberger & Mennell.

Plans being prepared by W. J. Dodd and William Richards, archt. and engr., 609 Brockman Bldg., for erecting 165 x 76 ft. reinforced concrete, steel and brick theater at 7th St. and Grand Ave. for Shirley Ward and others; cost about $100,000.

San Francisco, Cal.—State Board of Harbor Comrs., having plans prepared for following improvements: Extension and track for north side of Pier No. 40; reinforced concrete bulkhead wharf at pier No. 9; new reinforced concrete pier to be known as Pier No. 31; bulkhead wharf and connecting wharf joining to Pier No. 29; steel and concrete building for bulkhead wharves and connecting wharves at Piers Nos. 29 and 31.

BIDS DESIRED

Geneva, N. Y.—Until March 20, by Bd. Pub. Wks. (H. K. Seybolt, supt.), for constructing concrete slow sand filter unit, remodeling regulating house, etc.; advertised in this issue.

Ludington Harbor, Mich.—Until March 12, by U. S. Engr. Office, Grand Rapids, for constructing pile substructure and concrete superstructure north revetment here; advertised in this issue.

Ft. Atkinson, Wis.—Until March 3, by Bd. Pub. Wks., for constructing reinforced concrete bridge over Rock River, to be 5-arch structure 286 ft. long and 54 ft. wide; E. B. Parsons, conslt, engr., Jefferson.

Owatonna, Minn.—Until about Mar. 15, by City Clk., for constructing bridge with reinforced concrete arches on piling foundations having two 65-ft. spans and about 50 ft. wide; cost about $26,000; J. H. A. Brahtz, engr., St. Paul, Minn.

Alma, Kan.—Until Feb. 27, by L. B. Burt, co. clk., for constructing 43 concrete bridges and culverts; certified check for $50 to accompany bid.

PRICES AND LETTINGS

★*Indicates award of contract.*

Salem, N. J.—Following bids were opened Feb. 9 by county (I. C. Smaskey, co. clk.) for constructing Penn's Neck concrete bridge with steel draw over Salem River on Salem and Pennsville road, this place; constructing temporary frame bridge, complete, on piles (a) Bridgeton Constr. Co., Broad and Water Sts., Bridgeton, N. J., $7,332, (b) F. H. Leonard, $13,340; removing present bridge and constructing concrete substructure for new bridge (b) $40,551, (a) $46,942; constructing steel draw span. Penn Bridge Co., Beaver Falls, Pa., $48,870, time, 10 months; Phoenix Bridge Co., 49 William St., New York City, $42,160, time, 14 months; no bids were received to construct 2 concrete fix span decks, paving floor of complete bridge with wood block, also sidewalk floor and laying trolley tracks on complete bridge. Allen R. Wilson, engr., Lansdowne, Pa. H. B. Keasby, co. engr.

★**Seeley, Cal.**—Contract awarded by Advisory Bd., State Dept. Engr., Forum Bldg., Sacramento, Feb. 6, to Mercereau Bridge & Constr. Co., 471 Pacific Elec. Bldg., Los Angeles, Cal., at $13,131, to construct reinforced concrete bridge over New River, near here, on div. 8, route 12, sect. C, in Imperial Co. W. R. Ellis, secy., California Highway Comn.

★**London, Ont.**—Contract awarded Sam Willis, 765 Talbot St., for erecting Hydro sales office building of white brick, stone and reinforced concrete construction; to cost $100,000. Work to begin about Mar. 1.

STRUCTURAL STEEL WORK

PROPOSED WORK

New Brunswick, N. J.—Public Service Gas Co. contemplates erecting steel gas holder 175 ft. high and 144 ft. in diam. at Washington and Water Sts.; cost $168,000.

Coatesville, Pa.—County Court Jury Viewers (R. T. Cornwell, members), West Chester, have approved plans which are being prepared by N. R. Rambo, co. surv., West Chester, to replace present bridge over Rock Run, north of here, in Valley Township, with 4 arch stone bridge, 40 ft. long and 33 ft. wide with sidewalk.

Clearfield, Pa.—Petition being circulated, asking Co. Comrs., state and township officials to reconstruct bridge declared unsafe, over Clearfield Creek east of County Home, with one estimated to cost between $30,000 and $40,000.

Harrisburg, Pa.—County Comrs. intend constructing 3 new bridges this summer and repairing or reconstructing 22 others.

Milan, Pa.—County Court has appointed Viewers, who will report at May term, to pass upon petition for constructing proposed bridge over Susquehanna River near here. Address Judge Maxwell, Towanda.

West Chester, Pa.—County Court Jury Viewers (C. C. Campbell, member) favor construction of proposed bridge over Elk Creek on Route No. 131 between Penn and Upper Oxford Townships.

Seaford, Del.—Delaware RR. (Alex. C. Shand, ch. engr., Pennsylvania RR., Broad St., Philadelphia, Pa.) intends constructing bridge here over Nanticoke River.

Richmond, Va.—City Administration Bd. (H. E. Hirschberg, chmn.) considering replacing present Belt Line trestle over James River with steel or concrete bridge; also the construction of roadway and sidewalk, 50 or more ft. wide, on grade with this bridge or at a grade that will extend from Riverside Drive. Chas. E. Bolling, city engr., is consulting with Richmond, Fredericksburg & Potomac RR. (W. T. Bryant, road foreman engr., Richmond, Va.), Atlantic Coast Line Ry. (M. E. Nelson, bridge engr., Wilmington, N. C.) and Virginia Ry. & Power Co. (C. B. Buchanan, gen. mgr., Richmond, Va.) as to apportionment of cost of proposed bridge.

Hope Villa, La.—As soon as War Dept. has approved plans of C. G. Cappel, bridge and office engr. of State Highway Dept., contracts will be awarded by Duncan Buie, state highway engr., New Orleans, for steel-swing bridge of pony truss type, 132 ft. long and 16 ft. wide, with clear opening of 55 ft., concrete foundations and wooden approaches, over Bayou Manchac, this place.

Columbus, O.—See "Excavation, Drainage & Dredging."

Guthie Centre, Ia.—Plans being prepared by C. D. Weller, co. engr., for large number of box culverts and following proposed bridges: 5 I-beam, 20-ft. to 30-ft. spans, 2 high steel trusses, 1 130-ft. with 20-ft. roadway, other 100-ft. with 18-ft. roadway; three pony trusses, one 80-ft and one 60-ft. with 20-ft. roadway, 1 70-ft. with 18-ft. roadway; all with concrete floors and abutments; also moving to new site and reconstructing 108-ft. steel span on wood piling.

Little Rock, Ark.—Plans being prepared by Harrington, Howard & Ash, Orear-Leslie Bldg., Kansas City, Mo., for Comrs. Free Bridge Dist. (Herman Kahn, chmn.), to reconstruct bridge used for interurban traffic by widening same from 32 ft. to 42 ft., placing 5-ft. sidewalks on each side; also strengthening, lowering grade, paving and installing electric lights on same; estimated cost $300,000, to be divided equally by dist., county and Intercity Terminal Ry. (C. C. Kavanaugh, pres., Little Rock).

Morrillton, Ark.—Citizens of county planning improvement dist. that will include all of Conway Co., south of river and 2 ranges north, for purpose of constructing bridges over Arkansas river at the point, this place. E. E. Mitchell, Court House, Conway member of comrs. in charge of undertaking.

Clifton, Tex.—See "Foundations, Piers and Dams."

Waco, Tex.—Plans have been completed by Geo. B. Gurley, city engr., for ornamental bridges on 11th, Austin and S. 5th Sts. and on River Driveway. J. F. Stampp, street comr.

Calexico, Cal.—Plans being prepared by H. L. Sherman, city engr., for $12,000 steel bridge over New river at 2d St.

Fresno, Cal.—County intends constructing 62 bridges and culverts on proposed Firebaugh-Doo Palos road, 3 bridges will be wooden, 18 ft. wide, with 24 ft, spans. These bridges and proposed road will be on pile bent foundations. Scott McKay, co. surv, H. R. Fine, dep. co. clk.

Etobicoke Tp., Ont.—Plans being prepared by Toronto-Hamilton Highway Comn., 49 Wellington E., Toronto, for steel bridge in this township; estimated cost $16,000.

BIDS DESIRED

Charleston, W. Va.—Until March 14, by County Court, for constructing 2-span steel truss bridge over Big Sandy Creek near Clendenin; P. J. Walsh, engr. and gen. supt.; advertised in this issue.

Lewisburg, W. Va.—Until Mar. 6, by Jno. S. Crawford, clk. co. court, for constructing bridge across Anthony's Creek about ½ mi. west of Alvon P. O. Rader Bros., civil engrs., advertised in this issue.

Anna, Ill.—Reported desired until Feb. 26, by Miller Pond Drain. Dist., for constructing two 59 ft. steel spans, 14 ft. roadway on tubes or concrete abutments; Thos. G. Dunn, dist. engr.

New Ulm, Minn.—Until Mar. 1, by Renville Co. (J. L. Johnson, co. aud.) and Brown Co. (Louis G. Vogel, co. aud.) for constructing joint bridge over Minnesota River, known as State Bridge No. 2110 in Sec. 29, Twp. 112.

St. Louis, Mo.—Reported desired until Feb. 20, by Bd. Pub. Wks. (Wm. T. Findly, secy.), room 315 New City Hall, for furnishing and erecting structural steel for Soulard Market Sheds.

Seattle, Wash.—Reported desired until Mar. 2, by Bd. Pub. Wks., for constructing substructure for Eastlake bridge over Lake Washington; cost about $200,000.

Summerland, Cal.—Until March 2 by Dr. W. J. Turrentine, Arlington Hotel, Santa Barbara, for furnishing structural steel to U. S. Dept. Agriculture here; advertised in this issue.

PRICES AND LETTINGS

★*Indicates award of contract.*

Mt. Holly, N. J.—Following are 4 lowest bids opened Feb. 7 by Bd. Freeholders (James Logan, co. engr.), Mt. Holly, to construct King St. bridge, this place: F. W. Schwiers, 90 West St., New York City, $13,856; Crammer & Parker, Mayetta, N. J., $13,952; Whittaker & Diedl, Harrisburg, Pa., $15,284; Averill-Mathews Co., 31 Clinton St., Newark, N. J., $15,331.

★**Centerville, Ia.**—Contract awarded by county (bids opened Jan. 31) to Ottumwa Supply & Constr. Co., Ottumwa, Ia., at $16,835, for constructing majority of bridge and culvert work advertised. J. B. McNeal, aud.

★**Hampton, Ia.**—Contract awarded by county (bids opened Feb. 6) to N. M. Stark Co., Mason City, Ia., for constructing 1 I-beam and 5 pony truss bridges in various townships. E. D. Haecker, co. aud.

★**Schuyler, Neb.**—Contract awarded by county (bids opened Feb. 5) to Elkhorn Constr. Co., Fremont, Neb., for yearly contract to construct steel and concrete bridges. W. Hugh Fletcher, co clk.

★**Boise, Idaho.**—Contract awarded by county (bids opened Feb. 1) to Missouri Valley Bridge Co., Boise, Idaho, at $11,191, to construct 11 I-beam bridges.

ROADS AND PAVING

PROPOSED WORK

Maine.—Bill has been introduced introduced into State Legislature to provide for mill tax highway construction fund estimated to produce $521,000; providing bill passes, $200,000 of this fund will be added to State Aid Fund of $300,000, making total of $500,000 for proposed construction work on state aid or market roads. F. P. Washburn, secy. com. on ways and bridges, State House, Augusta.

Pittsfield, Mass.—Estimated cost of highway work in city placed at $60,000. Wm. C. Moulton, mayor.

Somerville, Mass.—Metropolitan Park and State Highway Coms, both in Boston, have recommended to State Legislature that authority be granted to construct highway through this city from point at or near Columbia St. on Cambridge line to Broadway Park; construction cost of 80-ft. highway placed at $450,000.

Greenwich, Conn.—Bill has been introduced into State Legislature asking for $50,000 appropriation to construct sidewalks on Boston Post Road from Stamford-Greenwich town line to New York State line, and also asks that 10 per cent of state highway appropriation be used to construct sidewalks on this turnpike. Address town clk.

Buffalo, N. Y.—Estimated costs of road work for which plans are being prepared by Thos. M. Brenne, supt. of highways, are: Lockport St., 1.7 miles, $36,890, and Evershed St., about ¾ mile, $13,588, both in Niagara; Hess road, 4 miles, in Newfane, $34,627; Lockport-Warrens Corners road, ¾ mile, in Lockport, $18,143.

Elmira, N. Y.—City (L. C. Andrews, clk.) intends paving about 40,000 sq. yd. Thurber A. Brown, engr.

Gowanda, N. Y.—All bids received Feb. 1 by village for paving 13,000 sq. yd. with concrete, rejected; work will be done by village. A. R. Sieler, engr.

Irvington, N. Y.—Village voted to grade and pave with asphalt and brick block on concrete foundations and construct curbs on B'way; estimated cost, $136,000. Address Robert Dashwood, clk., town of Greenburg (P. O., Tarrytown, N. Y.).

Mechanicsville, N. Y.—City estimates that 50,000 vitrified brick blocks will be required to pave Terminal St.; 25,000 on space on Saratoga Ave., now occupied by bridge over old Champlain canal, which will be removed this summer; 11,000 on space on Park Ave., formerly occupied by lift bridge. C. Hicks, city engr.

Garfield, N. J.—Boro. contemplates constructing 4 miles of concrete sidewalks and improving 2 or 3 miles of streets. Ernest Dahnert, mayor.

New Jersey.—Two bills have been introduced into State Legislature, one creating State Highway Comn. of 8 members and taking the place of present State Highway Dept., for purpose of constructing, reconstructing, improving and the maintenance of public roads; other bill provides for $15,000,000 state road fund by levying tax of 1 mill, for next 5 years, on each dollar of value of all real and personal property in every municipality. These 2 bills, if passed, will take the place of Egan Road Bill, which was passed by last State Legislature and voted favorably by voters at November, 1916, election, but was recently declared impracticable.

Paterson, N. J.—Largest proposed road work which is being considered by county for improvement this year is, with granite block, 14,300 lin. ft. on Newark branch of Main St., from South Paterson to Passaic city line, $250,000; with bituminous concrete, 15,465 lin. ft. on Black Oak Ridge from Newark-Pompton turnpike to Paterson-Hamburgh turnpike, $70,000; with concrete, 12,000 lin. ft. on Union Ave., from Totowa road to Little Falls turnpike, $50,000. Garwood Ferguson, co. engr.

Plainfield, N. J.—Public hearing will be held March 5 on question of issuing $150,000 bonds to pave 11 streets with brick and concrete. A. J. Gavett, city engr.

Princeton, N. J.—Princeton University (A. M. West, dean, graduate school, Graduate College) contemplates constructing boule. from Graduate College to Palmer Stadium, at estimated cost of $40,000.

Toms River, N. J.—Federal Government intends spending $60,000 on road work this year in this county; Buddtown-Barnegat road contemplated for improvement. Judge Jas. E. Otis, dir. bd. freeholders.

Easton, Pa.—County intends resurfacing about 10 miles of roads and purchasing some stone or gravel. Daniel J. Miller, co. engr., Bangor, Pa.

Erie, Pa.—Contracts will shortly be awarded by City Council (M. J. Henry, clk.) for grading, curbing, draining and paving portions of Liberty, estimated cost $13,312, Plum $9,650, and Wayne Sts. $4,130.

Philadelphia, Pa.—Bd. Pub. Wks. intends constructing boulevard along left bank of Schuylkill River from The Parkway to the South Broad St. Boule. and League Island Park and improving left bank of river from Callowhill St. to Vare Ave., for which city has appropriated $10,000 for survey work.

Scranton, Pa.—Estimated cost to grade, pave with sheet asphalt on concrete base and curb portion of Wayne Ave., in 2d Ward, placed at $12,832. Wm. A. Schunk, city engr.

Somerset, Pa.—County Comrs. in conjunction with State Highway Dept. (Frank B. Black, comr., Harrisburg), who have agreed to construct road between here and Brotherton on Somerset and Bedford pike, intend constructing portion of this road, 18,000 ft. long, between Berlin and Brother-

ton; estimated cost of co.'s portion, which has been surveyed and passes through Brothers Valley Township, supervs. of which have filed release from damages with Comrs., is placed at $51,101 with concrete; $53,295 with 5,000 ft. of brick and 13,000 ft. of concrete; $66,275 with brick on concrete base.

South Bethlehem, Pa.—City intends selling $150,000 bonds for proposed paving work.

Washington, Pa.—County Comrs. intend improving Burgettstown-Bulger road, 14,920 ft. long, in Smith Township; Prosperity-Dunns Station Extension road, 9370 ft. long, in Morris township; public road from Midway to Primprose, 10,545 ft. long, in Robinson and Mt. Pleasant townships. W. S. Lockhart, clk. quarter sessions, grand jury.

Staunton, Va.—County intends macadamizing 20 miles of roads. R. W. Moore, co. road engr.

Century, W. Va.—Contracts will be awarded by county (Leo Swecker, co. engr.), about March 1, to construct concrete curbs and pave with brick on concrete base approximately 18 miles of road in Barker Dist.; estimated cost $150,000.

Anderson, S. C.—Election will be held Feb. 26, instead of Feb. 20, to vote on $125,000 additional street paving bonds and $125,000 street paving certificates for proposed 12 miles of brick and asphalt street paving. J. H. Godfrey, mayor.

St. Matthews, S. C.—Town contemplates paving streets in business dist., same will take in part of Bridge St. and follow Railroad Ave to Southern depot.

Asheville, N. C.—Street improvement bonds for $170,000 will be sold Mar. 1 by Mayor and Aldermen.

Marietta, Ga.—Estimated cost to construct proposed 15-mile stone-bedded road from here to Chattahoochee River, the Fulton-Cobb Co. line, placed at $150,000. Address Co. Clk.

Mayo, Fla.—Freeholders in south half of county have approved creation of special road and bridge dist. and voted $250,000 bonds to construct 29 miles of Dixie Highway from Taylor Co. line to Alachua Co. line, and tributary roads, also county's part of bridge over Steinhatchee river and one over Suwanee river.

Wimauma, Fla.—Election will be held Feb. 20 in this section of county (James G. Yeats, chmn. bd. comrs., Tampa) to authorize creation of special road and bridge dist. and vote $30,000 to construct proposed 3 roads from here; 2 will be constructed 9 ft. wide with 10-in. shell surface, one running 3 miles southerly, other running 1 mile from S. E. corner of dist.; road running 4 miles easterly from here will be 10 ft. wide with 8-in. shell surface. S. T. Wadsworth, clk of election.

Cottonport, La.—Road bonds for $75,000 will be sold March 1, by L. B. Gremillion, pres. bd. superv., Avoyelles Parish.

Decatur, Miss.—Reported bonds for $30,000 for Road Dist. No. 1, Newton Co. will be sold Mar. 1; address A. S. Smith.

Indianola, Miss.—Dist. No. 2 is considering election to vote bonds for proposed construction of 20 miles of concrete or brick roads and intends submitting plan to Bd. Supervs. (J. W. Johnson, clk.) for their approval. C. C. Moody, judge.

Chattanooga, Tenn.—City Comn. recently authorized $30,000 bond issue as city's share of cost of proposed paving for which contracts will be awarded this spring, on portions of East 9th, West 9th, Market and Vance Sts. and Chamberlain Ave., estimated cost $85,000.

Jonesboro, Tenn.—County Court (W. C. Leab, clk.) has decided to grade and pave with rock, 256 miles of road at estimated cost of $500,000, for which bonds will be issued under general law; after all roads are graded, cost of which is placed at $300,000, they will be rocked with remainder of issue.

Lawrenceburg, Tenn.—Contracts will be awarded in March by county to construct 40 miles of Chert macadam roads for which plans are being prepared by R. M. Barker, ch. engr., co. road comn.; estimated cost $90,000. E. G. Parkes, secy.

Union City, Tenn.—Civil Dist. No. 6 (T. W. Cunningham, secy., Troy) favors construction of hard-surfaced road from here to Reelfoot Lake on Paducah-Memphis highway, via Hornbeak, for which bill seeking $65,000 appropriation has been introduced into State Legislature.

Brooksville, Ky.—County contemplates resurfacing about 60 miles of macadam roads. Roland R. Pyne, co. constr. engr.

Greenup, Ky.—Road and bridge bonds for $40,000 will be sold Feb. 26, by A. J. Cochran, co. clk.

Owensboro, Ky.—Contracts for construction of 50 miles of roads and resurfacing 10 miles of roads at cost of $350,000 have been approved, which leaves $150,000 for extending intercounty roads, as State Highway Dept., Frankfort, contemplates using $100,000 county funds for reconstructing pikes running out from here.

Cincinnati, O.—Estimated cost of contemplated road work in county placed at $600,000. Wm. H. Boeh, co. surv.

Lisbon, O.—County Comrs. and trustees of Fairfield Township considering paving 5 roads in township.

County intends constructing during 1917, 26 miles of roads and 2½ miles of concrete and 7½ miles of water bound macadam roads. L. H. Johnson, ch. clk. co. highway dept.

London, O.—County intends constructing with aid of State Highway Dept., Columbus, 5½ miles of concrete or waterbound road. J. H. Asher, surv.

Wooster, O.—City intends paving 12,200 sq. yds. on Larwill St. with brick, using grout, tar or mastic filler, and constructing 4-in. x 20-in. stone curbs or combination concrete curb and gutters; estimated cost, $32,000. Additional street work contemplated includes some small paving and sewer work. H. U. Mowery, city engr.

Zanesville, O.—Contracts will be awarded by State Highway Dept., Columbus, O., about April 9, for construction of national pike in Muskingum Co., from here to New Concord; estimated cost $300,000 for which bids on bonds will be asked about March 9. Fred C. Werner, co. comr.'s clk.

Anderson, Ind.—County Comrs, have granted petitions asking to pave Park Place, 4/5 mile, here, and H. P. Anderson roads Nos. 1 and 2 with gravel, 1¼ miles each, in Stonycreek township.

South Bend, Ind.—Bd. Park Comrs. (Arthur P. Perley, secy.), intends grading and paving Corby St. and all intersections between St. Louis Boule. and Niles Ave. with asphaltic concrete on 5-in. cement concrete foundations, constructing combination curb and gutter on both sides of street and marginal curb and storm water inlets.

Kendallville, Ind.—City intends paving about May 1 about 12,000 sq. yd. on Diamond St. Willis E. Sawyer, city engr.

Lafayette, Ind.—Petitions being circulated asking to pave with brick for distance of 3 miles Morehouse gravel road extending northwest from cor. of Vine and State Sts., and Montmorenci gravel road extending west from Russell St. Address Co. Clk.

Cadillac, Mich.—Taxpayers of Burdell township have voted $10,000 to construct 4 miles of state reward road from Wexford Co. line toward Tustin.

Flint, Mich.—Citizens of this place voted Jan. 30 $405,590 bonds for proposed paving and construction of storm water sewers and water mains; work will be done by city. E. C. Shoecraft, city engr. D. E. Newcombe, city clk.

Pontiac, Mich.—Estimated cost to pave portions of 13 streets with brick placed at $191,997 by W. J. Fisher, city engr.; largest jobs being Mt. Clemens St., $55,820; Baldwin Ave., $41,781; Willow Ave., $18,841; Parke St., $17,173.

Sturgis, Mich.—County Road Comrs. Centerville, have rejected all bids received for constructing 2 miles of road south of city limits; will readvertise about March 1. W. R. Addison, chm. co. road comrs., Leonidas, Mich.

Atlanta, Ill.—City will hold election Feb. 26 to vote on $12,500 bonds as part of $80,000 proposed paving work. Hall, Moose & Martin, Bloomington, attys.

Champaign, Ill.—Estimated cost of proposed road work in county placed at $1,653,000, divided as follows: 100 miles of concrete pavement, $825,000; 50 miles of brick pavement, 10 ft. wide, $627,000; 32 miles of macadamized road, $188,000; 2 of proposed brick roads are, one north to Ludlow, other east to Ogden from Urbana; 2 of proposed concrete roads are, Thomasboro to Flatville, and Champaign to Bondville and Seymour; 2 of proposed macadam roads are, Dewey to Rantoul and from Dewey, north 3 miles into East Bend township.

Moline, Ill.—Estimated cost to pave portions of 2d, 17th and 3 other avenues and 3 streets with asphalt placed at $57,627; estimated cost to pave portions of 18th St. and 20th Ave. placed at $17,894; citizens have approved paving streets with brick and 2 types of monolithic pavement. Lyle Payton, city engr.

Peoria, Ill.—County intends constructing 9 miles of concrete roads, for which $143,000 has been appropriated, and will hold election April 3 to vote $1,700,000 bonds to construct concrete and brick roads as part of 216-mile state aid system. Walter E. Emery, co. supt. of highways.

Rock Island, Ill.—Bd. Local Improvs. intends paving portion of 5th Ave., 36 ft. wide, with brick, at estimated cost of $11,140; also considering paving portion 6th Ave., 40 ft. wide, portion of 4th Ave., etc.

Bd. Supervs. considering holding special election to vote $1,000,000 bonds for proposed construction of hard surfaced roads in county and have had bill introduced into State Legislature asking for authority to hold same.

Richland Center, Wis.—Estimated cost of proposed paving work including pavement of some streets with asphalt on concrete base, placed at $50,000. D. E. Smith, mayor.

Tomah, Wis.—Contemplated paving work in city includes 15 blocks of brick pavement, 14 blocks of concrete and 1210 ft. of brick county road, 9 ft. wide. Wm. Kaufman, city clk.

Davenport, Ia.—Davenport Land & Improvement Co. (F. E. Wettstein, in charge) intend grading and paving streets and otherwise improving McClellan Heights dist.; estimated cost $75,000.

Eldora, Ia.—Contracts will shortly be awarded by city for the necessary manholes, inlets and catch basins, for paving 33 blocks and 4 alleys. C. M. Carrell, city engr.

Keokuk, Ia.—Contracts about to be awarded by city (T. J. Hickey, comr. pub. improvs.) to pave about 32,000 sq. yd. with brick and 27,000 sq. yd. with concrete and construct cement curbs. J. F. Winters, city engr.

Sioux City, Ia.—See "Reinforced Concrete."

Twin Falls, Ia.—Contracts will be awarded by city about April 15 to construct 8 miles of sidewalks. R. M. Williams, city clk.

Wapello, Ia.—County Comrs. (P. G. Wiederrecht, chmn. bd. supervs.) intend oiling about 10 miles of roads and purchasing material for culvert work; estimated cost of latter $1,500. Vail E. Thompson, co. engr.

Crookston, Minn.—Estimated cost of county's road and culvert work for this year placed at $35,000. H. J. Welte, co. aud.

Marshall, Minn.—Estimated cost of contemplated paving work to be done this season by city placed at $75,000 to $100,000 by O. H. Sterk, city engr.

St. Paul, Minn.—Bd. Pub. Wks. intend paving portions of Rice, Robert and 12th Sts., also Mounds Blvd.

Wichita, Kan.—County Comrs. (E. V. Moone, co. engr.), intend constructing almost 100 miles of dirt roads this spring; principal work will be done in west half of county, road having been mapped out from Mt. Hope in northwest cor. and from Anness to southwest cor. roads. Fritz Jorgensen, comr., Mt. Hope.

Omaha, Neb.—Estimated cost of proposed grading work on city's boulevards placed at $36,000. J. Bruce, city engr.

Deadwood, S. D.—Estimated cost of proposed road work in county placed at $25,000. Frank S. Peck, co. engr.

Miles City, Mont.—County Comrs. intend equalling $20,000 appropriation of federal government to construct proposed military road across county.

St. Joseph, Mo.—Bd. Pub. Wks. intends constructing concrete sidewalks on both sides of Mt. Mora road from Frederick Ave. to cemetery.

Beaumont, Tex.—County intends surfacing with bituminous material about 6 miles of roads. M. J. Graham, co. engr.

Beeville, Tex.—City intends paving about 30,000 sq. yd. John S. Fenner, city engr.

El Paso, Tex.—See "Excavation, Drainage and Dredging."

Waxahachie, Tex.—See "Waterworks."

Waco, Tex.—See "Miscellaneous."

Colorado Springs, Col.—City Council (Chas. L. McKesson, pres.) has appropriated $41,500 to Dept. Pub. Wks. & Property (W. A. Anderson, comr.) for proposed street, bridge and new construction work. Chas. Chapman, city clk.

Bartlesville, Okla.—County will probably hold another election April 5 to vote $800,000 bonds to construct north and south highway, 47.6 miles long. At previous election held Dec. 5 bonds were defeated J. C. Mitchell, co. clk.

Spokane, Wash.—Contracts will shortly be awarded by county (A. T. Anderson, aud.) for paving 6 miles of Apple Way road; estimated cost $60,000. A. R. Scott, co. engr.

Walla Walla, Wash.—Estimated cost to pave Valencia, Alvarado, Roosevelt, Division and other streets this year, placed at $100,000. W. R. Rehorn, city engr.

Berkeley, Cal.—City intends paving 104,500 sq. ft. with Topeka on 6-in. concrete base. C. L. Huggins, city engr.

California.—State Highway Comn., Forum Bldg., Sacramento, intends constructing lateral highways from Galt to Jackson and from Lodi to San Andreas.

Los Angeles, Cal.—County has rescinded contracts for highway construction work in Azusa, Grand Ave. and Florence dists., as there are no funds available for work.

Merced, Cal.—City voted to pave with 4-in. concrete base and oil and sand surface on number of business streets.

Santa Ana, Cal.—Estimated cost of constructing concave road on Fairview Ave. west of Bristol St. and paving same its full width to take care of storm water, placed at $24,000; City also considering grading portion of Bristol St. and paving Edinger St. cost of latter will be borne by city, county and adjoining property owners. C. C. Bonebrake, city engr.

Sacramento, Cal.—County (Geo. Vice, co. purch. agent) sold $1,750,000 bonds for which bids were received Dec. 15, to construct within next 2 years 126 miles of highways with concrete, 15 ft. wide, including necessary drainage structures. R. M. Morton, ch. engr., co. highway com.

Corvallis, Ore.—City about to receive bids on various types of material to pave 7866 sq. yd. on 9 blocks and on both vitrified and concrete sewer pipe for constructing sewer requiring 1701 cu. yd. of excav. in 6th St.

Hillsboro, Ore.—Among work contemplated by county with $95,000 roads and highway appropriation, $15,000 bridge appropriation and $5,000 machinery appropriation are following improvements: Paving with bituminous macadam road from Beaverton to Multnomah Co. line, $10,000; road from Multnomah Co. line towards Taylor Bridge, $10,000; road from Forest Grove to Banks, $5,000; resurfacing with same material road from Forest Grove to Gaston, $10,000. C. G. Reiter, co. surv.

Holbrook, Ariz. — County considering holding election to vote $150,000 bonds to construct highways.

Spalding, Idaho.—Lapwai Valley Highway Dist. (D. J. Wyatt, secy., Lewiston) has selected C. C. Van Arsdol, Court House, Lewiston, as consult. engr. for surveys of state highway from here to Jacques Spur, for which bids will be asked early in spring; $150,000 bonds for construction work were voted Dec. 5 by dist.

London, Ont.—Estimated cost of proposed county road work placed at $72,000 by Chas. Talbot, co. engr.

Toronto, Ont.—Bd. Control has received estimate of A. E. Burgess, chmn. com. of works, to pave, 25 ft. wide, with asphalt on 8-in. concrete foundation and lay brick block gutters (width of street being 43 ft., 18 ft. being occupied by Toronto St. Ry.), 2358 lin. ft. on York St., placed at $15,593; estimate of proposed work on Crown Park road placed at $3,457.

BIDS DESIRED

East Rochester, N. Y.—Reported desired until April 1 by M. Domras, village clk., for 8730 sq. yd. bituminous or concrete pavement and 3300 lin. ft. storm water sewer; cost about $100,000. R. E. Gaskin, engr., 55 Triangle Bldg., Rochester.

Irvington, N. Y.—Until Mar. 6, by Bd. Trustees (Joseph A. Murphy, clk.) for paving Broadway; Hugh P. Tiernan, C. E.; advertised in this issue.

New York, N. Y.—See "Excavation, Drainage and Dredging."

New Brunswick, N. J.—Until Feb. 26, by Bd. Freeholders, for paving road from South Amboy to Sayreville.

Newton, N. J.—Until Mar. 5, by Bd. Freeholders (R. Lee Slater, clk.), for paving Ross's Corner, Sussex Road; work includes about 61,479 sq. yd. pavement; advertised in this issue.

Ventnor City, N. J.—Until March 5 by Common Council (E. Steelman Royal, clk.), City Hall, for 19,000 sq. yd. sheet asphalt pavement and 1800 sq. yd. vitr. block gutters; advertised in this issue.

Franklin, Pa.—Until Mar. 4, by J. G. Crawford, city clk., for constructing 13,000 sq. yd. brick pavement on concrete base; advertised in this issue.

Sharon, Pa.—Until Feb. 27, by Claude B. Lartz, secy. boro., for 625,000 paving blocks, 220,000 hillside paving blocks, 150 tons asphalt and same amount of pitch, etc. Griff W. Nicholls, engr.

Pennsboro, W. Va.—Until March 29, by Winston & Co. (H. H. Wilson, res. mgr., partner), for paving 2 concrete roads 9 ft. wide and 2 and 6 mi. long respectively; separate bids for paving or grading or for both.

Jacksonville, Fla.—Reported desired until Feb. 20 by D. Smooth, comr. pub. wks., for 18,746 sq. yd. paving and 1514 sq. yd. gutter.

Wooster, O.—Until Feb. 21, by city, for paving 7,075 sq. yds on South Beaver St. with brick, grout or tar filler, and constructing stone or concrete curbs; estimated cost $18,000. H. U. Mowery, city engr.

Jackson, Ind.—Until Mar. 8, by Co. Clk., for improving public road with macadam; E. B. Lockridge, engr., Peru, Ind.

Plymouth, Ind.—Until March 3 by Arthur W. Thomson, co. aud., for constructing gravel roads; length about 22 miles; cost about $71,722.

Bloomington, Ill.—Until March 10 for paving 7 streets; cost about $21,000. Address City Clk.

Lincoln, Ill.—Until about Apr. 1, by Bd. Local Imp. (H. C. Mathews, Jr., city clk.) for paving Wyatt, Union, Kankakee and other avenues with brick (except Kickapoo, which will be paved with creosoted wood blocks) on 5-in. foundation, together with combined curb and gutter; cost about $47,000; W. C. Bates, engr., Lincoln.

Manasha, Wis.—Reported desired until March 1 by city for paving 1st and other streets. M. McMahon, city engr.

Portage, Wis.—Until March 6, by Council (Fred F. Goss, act. city clk.), for 22,470 lin. ft. concrete curb and gutter to relay 9,700 sq. yd. old vitrified brick pavement, to construct 32,600 sq. yd. new pavement; advertised in this issue.

Hampton, Ia.—Until Feb. 27 by City Clk. for constructing 40,000 sq. yd. pavement and 40,000 lin. ft. combined curb and gutter; bids taken on Portland cement concrete, one and two course construction, asphaltic concrete, etc. Theo. S. De Lay, cons. engr., Creston, Ia.

Hayti, S. D.—Until Feb. 27 by A. N. Johnson, city aud., for furnishing from 1 to 5 road grading machines; bids to be on 10 to 12-ft. blades.

St. Louis, Mo.—Reported desired until Feb. 20 by Bd. Pub. Serv. (E. R. Kinsey, pres.) for paving portions of Robin, Adkins and Dale Aves. and Delor and Neosho Sts.; cost about $110,200.

Seattle, Wash.—Until Mar. 5, by Co. Comrs. (N. M. Wardell, co. aud.) for grading 2½ mi. highway around Mercer Island; cost $17,000. Samuel J. Humes, co. engr.

Woodland, Cal.—Reported desired until Feb. 26, by Neal Chalmers, city clk., for constructing sidewalks on several streets.

Douglas, Ariz.—Until Mar. 5, by Fred Lindner, city clk., for paving, curbing, guttering and constructing sidewalks, etc., on 5 separate jobs; work includes about 140,000 sq. yd. paving and about 50,000 ft. curb, etc.

Lewiston, Idaho.—Until Mar. 5, by Bd. Co. Comrs. (R. N. Wright, clk.) for furnishing iron culverts of from 8 to 30 in. sizes; road graders, standard sizes; slip and Fresno scrapers, etc.; prices to be f.o.b. point of delivery.

Wallace, Idaho.—Until Feb. 28, by City Clk., for paving Dist. No. 4; cost between $75,000 and $150,000, according to type of material selected.

Hamilton, Ont.—Until March 5, by S. H. Kent, city clk., for supplying city until March 1, 1918, with cement, broken stone and screenings, asphalt, hydrants, valves, sewer pipe, etc.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Flatbrookville, N. J.**—Contract awarded by township (bids opened Feb. 1) to Edgar S. Closson, Montclair, N. J., at $12,170, to improve 13,822 sq. yd. on various streets. N. Van Auken, township clk.

Cross Keys, N. J.—Following are 4 lowest bids opened by county (Wm. C. Cattell, co. engr, Wenonah), for constructing proposed concrete road between here and Turnersville (estimated cost $71,217): Michael Staub, Mamaroneck, N. Y., $97,211; Sutton & Corson, Ocean City, N. J., $100,416; J. C. Bentley, Elizabeth, N. J., $102,125; J. F. Shanley Co., Commercial Terminal Bldg., Philadelphia, Pa., $107,537.

Moorestown, N. J.—Following are 4 lowest bids opened Feb. 7 by Bd. Freeholders (James Logan, co. engr.), Mt. Holly, to construct Moorestown-Camden pike: John Ginder, Trenton, N. J., $68,429; S. M. Kallabach, Wildwood, N. J., $74,837; Jos. Jingola, Trenton, N. J., $75,821; J. F. Shanley Co., Philadelphia, Pa., $84,520.

Neshanic, N. J.—Lowest bid opened Feb. 6 by township for improving Flagtown-South Branch road with macadam surface, was from Hickey & Houghton, Somerville, N. J. Clarence Van Cley, township clk.

★**Archbald, Pa.**—Contract awarded by borough to Boland Bros., Carbondale, Pa., at $25,775, for paving Cherry, Monroe and Pine Sts. with brick.

★**Baltimore, Md.**—Contracts awarded by Bd. Awards to Wm. C. Evans, Ambler, Pa., at $24,532, for paving private alleys in city.

★**Wilson, N. C.**—Contract awarded by city to Robert G. Laseter & Co., Oxford, N. C., for paving 100,000 sq. yd. with sheet asphalt, about 50,000 sq. yd. with bitulithic and laying 50,000 lin. ft. of granite curbing; estimated cost, $350,000.

★**Salyersville, Ky.**—Contract awarded by county to Blanton & Jones, Bloomington, Ky., at $18,000 to grade 3 miles of road between here and Sublett; to F. G. Walker, Salyersville, Ky., at $9,000, for 1 mile of road work along Licking river.

★**Cincinnati, O.**—Contract awarded by Bd. park Comrs. to R. F. Cash, 409 Lincoln Inn Court for grading work in Ault Park; estimated cost $40,000.

Lisbon, O.—Only bid received by Co. comrs., Jan. 22 to construct 7 miles of Lincoln Highway through Madison township, was from McLean & Hepburn, Lisbon, O., at $44,649, for only grading and constructing bridges on this road.

★**Portsmouth, O.**—Contract awarded by Co. Comrs. to Seiple-Wolf Constr. Co. Youngstown, O., at $14,113, for resurfacing with bituminous macadam, Towpath road, West Side.

★**Browntown, Ind.**—Contract awarded by county (bids opened Feb. 5) for grading, curbing and improving roads in various townships, as follows: 3 concrete roads to Boone Constr. Co., Lebanon, Ind.; 1 gravel road to Jennings & Bebout, Seymour, Ind. C. F. Lantzenheiser, dep. aud.

★**Evansville, Ind.**—Contract awarded by county (bids opened Jan. 29) to John Fridy, Evansville, Ind., for grading, curbing, paving and improving various roads in various townships.

★**Kokomo, Ind.**—Contracts awarded by county (bids opened Feb. 6) to F. H. Null, Windfall, Ind., to pave stone road in Center township and to Jas. H. Watson, Kokomo, Ind., to pave brick road in Liberty township.

★**Lebanon, Ind.**—Contract awarded by city (bids opened Jan. 29) to John Adams, Lebanon, Ind., at $25,000, for paving 10,000 sq. yd. on road 3400 ft. long and 34 ft. wide.

★**New Albany, Ind.**—Contract awarded by county to W. F. Woodruff, P. O. Station A, Louivsille, Ky., at $10,010, to improve Greenville and Georgetown highway. Emile Dupaquier, aud.

★**Zeeland, Mich.**—Contract awarded by city (bids opened Feb. 1) to Kloote & Son, Grand Rapids, Mich., at $51,000, for paving Main St. with concrete. L. A. Boulay Co., Nicholas Bldg., Toledo, O.

★**Rock Island, Ill.**—Contract awarded by city to Tri-City Constr. Co., Davenport, Ia., at about $83,000, for paving with brick portion of 9th St.

★**Appleton, Wis.**—Following contracts have been awarded for road work in county: To Geo. W. Gross, La Porte, Ind., at $28,256, for Appleton-Greenville road, 4 1-5 miles long and 16 ft. wide, and at $48,590, for Hortonville-New London road, 6.11 miles long and 16 ft. wide; to Parker & Wunderlich, Appleton, at $28,200, for Appleton-Mackville road, 2.75 miles long and 16 ft. wide, at $21,032, for Shiocton-Stephenville road, 4½ miles long —4 miles will be 9 ft., ½ mile 16 ft. wide to Greinke Bros., Appleton, at $15,105, for Little Chute-Kaukauna road, 2.11 miles long and 18 ft. wide, and at $4,022, for Appleton-Brickyard road, ½ mile long and 16 ft. wide; to T. J. McCormick, Seymour, Wis., at $0.62 per sq. yd. for paving, and $0.50 per cu. yd. for grading on Seymour-Appleton road; to Garvey & Weyenberg, Appleton, at $0.77 per sq. yd. for paving, and at $0.50 per cu. yd. for grading, and at $8.00 per cu. yd. for culverts on Seymour-Oneida road; no plans drawn for last 2 roads.

★**Traer, Ia.**—Contract awarded by town (bids opened Feb. 6) to Dearborn Constr. Co., Waterloo, Ia., at $42,720, for paving 24,000 sq. yd. with asphaltic concrete. T. F. Stoakes, town clk.

★**New Ulm, Minn.**—Contract awarded by city (bids opened Feb. 6) to Standard Oil Co., Mankato, Minn., for furnishing 100,000 gal. asphalt road oil, f. o. b. M. & St. Louis Ry. tracks. Wm. Backer, city clk.

Leavenworth, Kan.—Following are 4 bids opened Feb. 6 by city for paving and repair work: (a) E. L. Meek, Chillicothe, Mo., $64,840; (b) Barrett Co., Kansas City, Mo., $66,050; (c) Jas. Stanton, Leavenworth, Kan,, $66,900; (d) Frank Reese, Quincy, Ill., $67,040. H. G. Perkins, city engr.

	(a)	(b)	(c)	(d)
40,000 sq. yd., remove present surface	$0.095	$0.10	$0.085	$0.09
45,000 sq. yd., tar macadam	1.33	1.35	1.38	1.38
2,000 sq. yd., remove concrete.	0.34	0.35	0.40	0.39
200 cu. yd. broken rock for filling wet places.....	2.55	3.00	3.00	2.90

Helena, Mont.—Following 4 bids were opened by city for paving with concrete Helena Ave. distance of 5350 ft. and 33 ft. wide: Adami Bros., $30,018; Lewis-Johnson, $30,560; D. C. Sweeny, $33,616, all of Helena, Mont.; Lloyd Constr. Co., Hamilton, Mont., $32,318.

★**De Queen, Ark.**—Contracts awarded by Comrs. Road Improv. Dist. No. 1 to Western Paving Co., Oklahoma City, Okla., for road work, and to Vincennes Bridge Co., Vincennes, Ind., for bridge work on the 28 miles of new rock road in Sevier Co.; total cost $140,000. Parkes Engr. Co., engrs., Pine Bluff, Ark.

★**Mt. Vernon, Tex.**—Contracts awarded by Comrs. Court to W. Lawson and Ben Johnson, Annona, Tex., J. B. Wills, Greenville, Tex. and Cade Carson, Mt. Vernon, Tex., to construct county link in Jefferson highway; estimated cost $1,000,000.

Bartlesville, Okla.—Lowest bid which varied from $1.30 to $1.31 per sq. yd., opened Jan. 29 by city for paving 25 blocks on portions of Delaware, Sante Fe and Keeler Aves. and 11th and 12th Sts., was from Wheeler, Keeler & Co., Hurchinson, Kan.

★**Everett, Wash.**—Contract awarded by county to Atlas Contr. Co., Everett, at $28,184, to pave with concrete 2½ miles of highway No. 25.

★**Spokane, Wash.**—Contract awarded by city (bids opened Feb. 1) to C. M. Payne, 724 E. Mission Ave., Spokane, at $18,874, to grade and pave and construct sidewalks on portions of Nevada St. and Euclid Ave. Leonard Funk, comr, pub. wks.

★**Bakersfield, Cal.**—Contract awarded by city (bids opened Jan. 26) to Thompson Bros., Fresno, Cal., at $22,398, for paving with bitulithic and constructing cement curbs, concrete and corrugated iron culverts in portion of Sumner St.

★**Los Angeles, Cal.**—Contract awarded by city in San Pedro dist. to Fairchild-Gilmore-Wilton Co., Pacific Elec. Bldg., Los Angeles, at $34,417, for paving 101,880 sq. ft. with bitulithic, 29,740 sq. ft. with concrete and constructing 22,316 sq. ft. of cement walks, 4778 lin. ft. of cement curbing, also sanitary sewers in portion of 19th St.

★**Redwood City, Cal.**—Contract awarded by city to E. H. Sundberg, Oakland Bank of Savings Bldg., Oakland, Cal., at $34,291, for grading and constructing concrete curbs, gutters and sidewalks.

★**Santa Barbara, Cal.**—Contract awarded by city (bids opened Feb. 2) to L. L. Pendola, Santa Barbara, at $21,782, for constructing 4-in. concrete pavement with 2-in. asphaltic surface, also retaining walls and concrete catch basins in portions of Micheltorena and Capala Sts.

RAILWAYS
Steam and Electric

PROPOSED WORK

Binghamton, N. Y.—Plans being revived for construction of a line from here to Utica. Franchises granted in 1907 have been renewed. Thos. McBride, Clinton, reported interested.

Buffalo, N. Y.—Grade Crossing Comn. (Ed. B. Guthrie, engr.) considering elimination of grade crossings as follows: One viaduct to be built at Louisiana St. extending 1200 ft. to Erie Dock, cost about $200,000; another to be constructed in Hertle Ave., eliminating crossing of Falls branch of New York Central, cost about $50,000.

Elizabeth, N. J.—Central R. R. of New Jersey (A. E. Owen, ch. engr., New York) reported as considering the elimination of certain grade crossings in the Elizabethport section.

Lebanon, Pa.—Council passed ordinance permitting Cornwall & Lebanon RR. (A. D. Smith, pres.) to make extensive track improvements, to be part of $230,000 improvement program.

Philadelphia, Pa.—Department of Transit, engrs. have completed plans for proposed Darby Elevated R. R. line; $1,000,000 has been appropriated.

New Orleans, La.—Reported that construction of an electric railway from here to Milneburg is being considered. The Elysian Field Ave. Comn., W. W. Fisk, secy., is reported interested.

Pearson, La.—Christie & Eastern Ry. Co. (A. J. Peary, pres., Shreveport) organized and authorized to construct railroad from here to Christie, about 60 miles.

Meridian, Miss.—Reported New Orleans & Northeastern Ry. (W. H. Wells, ch. engr., Washington, D. C.) will double track its line from Meridian to New Orleans.

Jackson, Tenn.—Election will be held March 8 by city to issue $100,000 bonds for constructing new railroad.

Maryville, Tenn.—Louisville & Nashville R. R. Co. (W. H. Courtenay, ch. engr., Louisville, Ky.) will construct 1½ miles of track to connect the mill of the Babcock Lumber & Land Co. with main line; cost about $27,000.

Harlan, Ky.—Louisville & Nashville R. R. (H. C. Williams, ch. engr., Louisville) will construct 10-mile branch coal road up Clover Fork, surveys now being made. The company will also double track the entire Cumberland Valley from Harlan to Corbin, according to a report.

Columbus, O.—Scioto Valley Traction Co. (F. A. Davis, gen. mgr.) plans improving its line from Lockbourne to Main St., Columbus, distance about 11 miles.

Bozeman, Mont.—B. O. Johnson, supt. Montana Division, Northern Pacific Ry. Co., reports company will expend $2,000,000 on the 33-mile alternate low grade line between Logan and Bozeman. Construction will be started about April 1.

Edith, Mo.—See "Foundations, Piers and Dams."

McCreanor, Ark.—Pine Bluff & Northern Ry. Co (J. K. Riffel, receiver, Southeastern Trust Bldg., Little Rock, Ark.) plans extending its present road from here to Pine Bluff, a distance of about 35 miles.

Rogers, Ark.—Ozark & Arkansas Midland Ry. Co. is making preliminary surveys for new road from here to Kingston, about 50 miles in length.

Bartlesville, Okla.—Oklahoma & Northern Traction Co. has received a franchise from City Council and will construct an electric railway from here to Miami. W. K. Palmer & Co., engrs., Kansas City, Mo.

Clinton, Okla.—Clinton & Western Oklahoma Ry. (W. S. Haid, gen. mgr.) considering extension of its line about 31 miles southeast of Clinton.

Seattle, Wash.—In accordance with resolution of Port of Seattle Comn., election will probably be held March 6 on question of issuing $450,000 bonds for constructing belt line railroad along water front.

Los Angeles, Cal.—Atchison, Topeka & Santa Fe RR. Co. (W. G. Harris, ch. engr., Coast Lines, Kerchhoff Bldg.) considering extending electric automatic block signal system over its entire lines within state during 1917; cost about $500,000.

BIDS DESIRED

Lake Toxaway, N. C.—Until Feb. 28, by Jerome Moltz, care R. S. Brown, ch. engr., Ashville, for grading road bed for about 6 mi. of standard gauge logging from junction with Southern Ry., here to Cold Mt.; advertised in this issue.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Wichita, Kan.**—Contract awarded by Kansas-Oklahoma Electric Co. (S. M. Porter, pres., Caney, Okla.) for construction of an electric railway from Wichita, Kan., to Fort Smith, Ark., a distance of about 165 miles, to Samuel Stephenson's Sons & Co., New Haven, Conn., which was sublet to Railroad Constr. Co., 212 5th Ave., New York, N. Y.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK

Boston, Mass.—See "Reinforced Concrete."

Elizabeth, N. J.—Reported Standard Electric Fixture Co., Bridgeport, Conn., plans erecting 4-story 100 x 300 ft. factory building here to cost about $100,000. V. Mravlag, 1062 E. Jersey St., reported interested.

Elizabeth, N. J.—Waclark Wire Works will erect addition to plant for manufacture of fine wire, which will be located at Bayway & S. Front St., and will cost about $100,000.

Trenton, N. J.—Reported Fitz Gibbon & Crisp will erect addition to present plant to cost about $200,000.

Renova, Pa.—Reported Pennsylvania RR. Co., R. Trimble, ch. engr., Pittsburgh, will expend $100,000 in improving and enlarging shops here.

Augusta, Ga.—Reported Hampton Terrace Hotel recently destroyed by fire will be rebuilt at cost of $350,000. A. J. Miller, Augusta, reported interested.

Grand Rapids, Mich.—Reported Consumers Power Co., Wealthy St., S. W., will erect addition to its steam plant to cost $68,000.

Milwaukee, Wis.—Reported Hercules Steel Casting Co. (E. B. Gennrich, secy., Free Press Corp.) will erect steel plant to cost $200,000.

Fort Madison, Ia.—Plans being prepared for erecting paper mill here for Montgomery Ward & Co., Chicago Ave. & Larrabee St., Chicago, to cost $250,000.

Mason City, Ia.—Reported American Brick & Tile Co. will rebuild factory recently destroyed by fire with loss of $75,000.

Libby, Mont.—Hazel-Luckens silver and lead mine will erect mill to cost $150,000.

Seattle, Wash.—See "Reinforced Concrete."

Bakersfield, Cal.—Reported Odd Fellows will erect lodge building to cost $60,000.

Los Angeles, Cal.—See "Reinforced Concrete."

Portland, Ore.—Reported Rasmussen & Co. local plans erecting warehouse building and plant on 11th St., in Sullivan's Gulch, to cost $60,000.

Reported Frei Pickle Works (Ralph Hahn, mgr.) 8th and Salmon Sts., will erect new pickle plant on Macadam Road in S. Portland, to cost $50,000.

Richmond, Cal.—Plans completed by A. W. Cornelius, Merchants Natl. Bank Bldg., San Francisco, for erecting theater building to cost about $127,000.

Stockton, Cal.—Stockton Sugar Co. will erect factory on Moss tract to cost about $117,000. Frank Lyons, 807 N. El Dorado St., reported interested.

Simcoe, Ont. — Reported lithographing plant of Dominion Canners, recently destroyed by fire with loss of $250,000, will be rebuilt.

BIDS DESIRED

Buffalo, N. Y.—Until March 15 by U. S. Engr. Office for erecting office storehouse building and 6 operating houses at Black Rock Lock and storehouse at Ferry St. Bridge; advertised in this issue.

New York, N. Y.—Until Feb. 23 by Dept. Pub. Charities (John A. Kingsbury, comr., Municipal Bldg.) for erecting 9-story and basement, fireproof, elevator storehouse on Blackwells Island; separate bids for plumbing, drainage and heating; security $80,000 for general construction and $8,000 for each of the other items.

Elkhorn, Wis.—Reported desired until Feb. 20 by Jas. Richard, Law, archt., Gay Bldg., Madison, for erecting 2-story, 66.10 x 236-ft. factory building.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Indian Head, Md.**—Bid of Penn Bridge Co., Beaver Falls, Pa., at $84,871 has been accepted for erecting two soda storehouses and four cotton storehouses at naval proving ground, Indian Head.

Paris, Ont.—Contract awarded Schultz Bros., 35 Albion St., Brantford, for erecting brick addition to Penman Woollen Mills, to cost $50,000.

BUILDINGS
Public and Private

PROPOSED WORK

Boston, Mass.—Philip Silverstein will erect 4-story brick and stone apartment block on Longwood Ave. to cost $50,000. Silverman Engr. Co. 43 Tremont St. Archts.,

Revere, Mass.—School bd. plans erecting 16 room school building in Crescent Beach section to cost $100,000 and has asked city council to appropriate same amount.

Cooperstown, N. Y.—Plans being prepared by Day & Klauder, 925 Chestnut St., Philadelphia, for erecting 3-story brick and stone vocational school building for the Susan Fennimore Cooper Foundation, to cost $125,000. James Fennimore Cooper, Chmn., Albany; Rev. Ralph Birdsall, Secy., Cooperstown.

Manursing Island (P. O. Rye), N. Y.—Plans being prepared by Warren & Wetmore, 16 E. 47th St., New York, N. Y., for erecting 2-story club house near here, to cost $500,000, for Miantonameh Club.

Watertown, N. Y.—New York Utilities Co., Inc. (C. C Burns, pres.), will erect 3-story 100 x 100 ft. brick and steel office building on Franklin St., to cost $75,000. D. D. Kieff, Flower Block, archt.

Belmar, N. J.—Reported Samuel Michelson, 603 10th Ave., plans erecting $50,000 hotel along the beach.

Cape May, N. J.—Senator Lewis T. Stenens, Cape May, N. J., has asked legislature to appropriate $200 000 for erecting Normal and summer school here.

Reported City Comrs. plan erecting conventional hall and pier to cost $75,000. W. L. Stevens, Mayor.

Newark, N. J.—Prudential Insurance Co. of America will erect addition and make alterations to steel and stone offices at Broad and Bank Sts., to cost $96,000.

Newark, N. J.—Reported Joseph Kruvant will erect 5-story brick dwelling at 31 Walnut St. to cost $50,000. Ed. V. Warren, archt., Essex Bldg.

Princeton, N. J.—Pennsylvania RR. Co. (A. C. Shand, Philadelphia) announces it will erect passenger and freight stations and enlarge railroad yards to cost about $350,000.

Bigler ville, Pa.—See "Reinforced Concrete."

Coudersport, Pa.—Plans being prepared for rebuilding plant of Beckler Manager Roller Co., which was recently destroyed by fire with loss of $65,000.

Johnstown, Pa.,—Plans were completed by J. E. Adams and George Wild, 734 Main Ave., Johnstown, for erecting brick, stone, concrete and steel high school building to cost $200,000 for Bd. Educ.

Philadelphia, Pa.—Reported Abner H. Mershon, 1909 N. Broad St., will erect 19-story 178 x 93 to 240 ft. apartment house, to cost $2,000,000.

College Park, Md.—Plans prepared by Flournoy & Flournoy, Washington, D. C., for erecting 3-story brick and stone 85 x 200 ft. building for Maryland Agricultural College, to cost $165,000.

Salisbury, Md.—Plans being prepared for erecting Jackson Gutman Co.'s plant recently destroyed by fire with loss of $200,000.

Wilmington, Del.—Du Pont Powder Co. will erect 12-story addition to Market St. building.

Roanoke, Va.,—Reported officials of Virginia Bridge and Iron Co. will rebuild portion of plant recently damaged by fire with loss of about $200,000.

Shreveport, La.—Reported C. C. McCloud having plans prepared for erecting additional rooms and improvements of brick, steel and concrete to Colonial Hotel, to cost about $50,000.

Louisville, Ky.—Plans were prepared by D. X. Murphy & Bro., 712 Louisville Trust Bldg., for erecting 1-story and balcony 157 x 200 ft. auditorium building to cost $250,000 for city; P. L. Atherton, Chm. bldg. comm. Atherton Bldg.

Cincinnati, O.—Longview Hospital Building Comm. has approved estimate of $402,353 submitted by Archts. Elzner & Anderson, 136 Ingalls Bldg., for erecting woman's ward building. Bids will be received in March.

Lamb & Sons, 644 8th Ave., New York, will prepare plans for Edward Hart of Gayety Amusement Co. for erecting $150,000 moving picture theater with ornamental stucco front on 5th St., near Walnut St.

Cleveland, O.—Contract will soon be let for erecting 10-story and basement 75 x 165-ft. addition to hotel of Murphy Hotel Co. (W. L. Murphy, Pres., 1811 E. 9th St.) to cost $150,000.

Reported Herman A. Harris, 5001 Lexington Ave., will erect residence on Magnolia Drive, near Ford Drive, to cost about $55,000.

Reported J. W. Wilson Co., Park Bldg., will erect apartment building on E. 96th St., near Euclid Ave., to cost about $175,000. J. M. Bostick, archt., Leader-News Bldg.

Marion, O.—Contract will soon be let for erecting 8-story and basement 60 x 160-ft. hotel building to cost $125,000 for Fireproof Hotel Co., (J. W. King, Pres.,) Theis & Theis, archts. and engrs., Davis Bldg., Dayton.

Wooster, O.—Reported citizens voted bond issue of $50,000 for erecting grade school building.

Elkhart, Ind.—Plans being prepared by A. H. Ellwood & Son, Haynes Bldg, for erecting 9-story and basement hotel building to cost $200,000.

Escanaba, Mich.—Reported several buildings will be erected here by Standard Oil Co., 26 B'way, New York City, to cost $100,000.

Chicago, Ill.—Plans were completed by H. R. Wilson & Co., 11 S. La Salle St., for erecting 11-story and basement 140 x 170-ft. hotel building to cost $800,000 for H. W. Sesson, 7 S. Dearborn St.

Contract will soon be let for erecting 9-story and basement 94 x173 ft. hotel building to cost $650,000 for Shorham Hotel Co. c/o Paul A. Wendland, of the Home Insurance Co. 175 W. Jackson Blvd.; Wheelock & Shank, archts. 54 W. Randolph St.

Eau Claire, Wis.—Plans being considered for erecting girls' dormitory, laundry and power house at Sacred Heart Hospital to cost $50,000. Foeller & Schober, 123 N. Washington St., Green Bay, Wis., archts.

Milwaukee, Wis.—Plans being prepared for erecting state normal school bldg. at $125,000 at Downer and Kenwood Aves. State Bd. of Normal School Regents, Madison, Wis.

Onalaska, Wis.—Reported county tuberculosis sanatorium, to cost $50,000, will be erected here. Bert Jollivate, co. aud., La Crosse.

Racine Wis.,—General contract will soon be let for erecting 2-story and basement 100 x 100-ft. hotel building to cost $50,000 for International Hotel Co.; A. L. Flegel, archt., 223 6th St.

Iowa City, Ia.—State University has asked for $300,000 from legislature for building Botany and Geology Halls and library. W. A. Jessup, pres. state bd. educ.

Waterloo, Ia.—Preliminary plans will soon be prepared for erecting church for First Presbyterian Congregation cost $75,000. Rev. J. R. McCarney, pastor.

Fergus Falls, Minn.—Reported Hotel Kaddatz will be enlarged 50 rooms; addition will cost $60,000. Mr. Kaddatz, owner.

Ironton, Minn.—Bond issue of $100,000 for erecting grade school building carried at election. E. R. Burns, city clk.

Worthington, Minn.—Hospital assn. organized here and plans erecting hospital to cost $60,000. W. H. Buchan, city clk.

Fairbury, Neb.—Site is purchased and Patrick and James Walsh and others will erect hotel to cost $125,000.

Humphrey, Neb.—Knights of Columbus have purchased site and will erect clubhouse to cost $55,000.

York, Neb.—Reported York Co. Agricultural Society has selected site and will erect community building to cost $50,000.

Jamestown, N. D.—Reported creamery contemplated to cost $50,000. Commercial Club members reported interested.

Minot, N. D.—See "Reinforced Concrete."

Fairfield, Mont.—Reported Power-Morgan Co. will erect store, warehouse and auto service station to cost $100,000.

Poplar, Mont.—Plans being prepared by E. L. Olson, local, for erecting 4-story and basement hotel building to cost $100,000.

Texarkana, Ark.,—Reported City Council plans erecting new City Hall to cost about $75,000.

Waxahachie, Tex.—See "Waterworks."

Colorado Springs, Colo.,—Plans being prepared by Warren & Wetmore 16 E. 47th St., New York, N. Y., for erecting hotel to cost $1,000,000, for Broadmoor Hotel & Land Co., Spencer Penrose, in charge.

Guthrie, Okla.—Reported Masons will remodel temple at cost of $300,000. Plans being prepared.

Kingfisher, Okla.—Citizens voted $50,000 bond issue for erecting high and grade school building and repair work on school buildings.

Edgecliff, Wash.—Reported Spokane Co. Comrs. (C. R. Howard) plan erecting structure for housing advanced tuberculosis patients, to cost $50,000.

Everett, Wash.—Plans will be prepared by B. F. Turnbull for erecting addition to Washington School, to cost $50,000.

Spokane, Wash.—Spokane Dry Goods Co., R. B. Paterson, pres., will erect 7-story 207 x 142 ft. steel and concrete business block at Main Ave. and Wall St., to cost $400,000. Work will begin in spring.

Spokane, Wash.—John W. Graham & Co. plans erecting 6-story modern business block on N. E. corner of Stevens St. and Sprague Ave., to cost about $150,000.

Portland, Ore.—School Bd. authorized Supt. of School Properties to prepare plans for erecting Hawthorne-Buckman School to contain 24 classrooms, auditorium, inclosed heated playground, swimming pool, two group plan arrangement, kindergarten room, teachers' rest room, etc.

Dartmouth, N. S.—Plans being prepared by S. P. Damaresq, St. Paul Bldg., for erecting reinforced concrete building to cost $60,000, for Maritime Telephone Co., Wm. H. Hayer, mgr.

Hamilton, Ont.—Plans prepared by Thos. W. Lamb, 17 St. John St., Montreal, for erecting theater for Loews Theater Co., 189 Yonge St., Toronto, to cost $200,000.

BIDS DESIRED

Boston, Mass.—Until Feb. 23, by School House Comrs., for erecting school building at Harvard and Glenway Sts., Dorchester; cost about $75,000; certified check for $1,000 to accompany bid.

Ithaca, N. Y.—Until Feb. 26, by E. L. Williams, comptroller, Cornell Univ., for erection, alterations and additions to stock judging pavilion, and addition to Forestry Bldg., E. wing, at N. Y. State College of Agri.; Lewis F. Pilcher, state archt., capitol, Albany.

Bridgetown, N. J.—Until Feb. 22 by Edward J. Scholl, archt., Reading, Pa., or by School Bd., Bridgetown, for erecting school building.

Allentown, Pa.—Until March 1 by Louis H. Giole, 1123 Broadway, New York City, for erecting 4-story, 70 x 188-ft. hospital for R. C. Church of Sacred Heart (Rev. Peter Mason, 336 N. 4th St.); cost $150,000.

Mars, Pa.—Until Mar. 1, by Bd. School Dirs. (C. E. Sybert, secy.) for erecting high school building; separate bids for heating, plumbing and wiring. W. G. Eckles, New Castle, archt.

Philadelphia, Pa.—Until Feb. 23 by Brown & Whiteside, archts., Wilmington, Del., for erecting 3-story, 30 x 68-ft., brick, concrete and terra cotta office building at corner of 11th and Poplar Sts. for Newcastle Leather Co.

Birmingham, Ala.—Until Mar. 2, by Jas. A. Wetmore, superv. archt., treas. dept., Washington, D. C., for erecting 360 x 165 ft. 3-story stone and brick post office and court house.

Marion, Ky.—Until Mar. 15, by Jas. A. Wetmore, superv. archt., treas. dept., Washington, D. C., for erecting U. S. post-office.

Cleveland, O.—Reported desired until Feb. 20, by F. P. Brandt Motor Co., 1831 E. 13th St., for building garage and sales building at E. 46th St. and Carnegie St.; cost about $150,000; Lehman & Schmidt, 303 Electric Bldg., archts.

Martins Ferry, O.—Until March 21 by Jas. A. Wetmore, superv. archt., Treas. Dept., Washington, D. C., for erecting U. S. post office building; advertised in this issue.

Toledo, O.—Until Feb. 20 for erecting 6-story and basement, 50 x 130-ft. hospital for Roman Catholic Diocese (Rt. Rev. Joseph Schrembs, D.D., Bishop of Toledo); cost about $150,000. Myer J. Sturm, archt., 116 S. Michigan Ave., Chicago.

Tippecanoe, Ind.—Reported desired until Feb. 28, by Chas. Greigbaum, trustee, for erecting 2-story and basement grade and high school building.

Ann Arbor, Mich.—Until March 8 by Co. Clk., for erecting county infirmary. Address John Lawson, chmn. bldg. committee.

Detroit, Mich.—Reported desired until Feb. 24, by Chas. Gadd, secy. bd. educ., 50 Broadway, for erecting 2-story and basement, 75 x 101 ft. school building; cost about $250,000. Malcolmson & Higginbotham, archts., 404 Moffat Blk.

Grand Rapids, Mich.—Reported desired until Feb. 26, by Bd. Educ., for erecting 3-story, 60 x 100-ft. auditorium; cost about $50,000; H. H. Turner, North Division St., archt.

Cloquet, Minn.—Reported desired until Feb. 24, by Ind. School Dist. No. 7, for erecting 3-story 138 x 100 ft. school building with steel trusses and beams, reinforced concrete, etc.; cost about $70,000; Kelly & Williams, archts., First National Bank Bldg., Duluth.

Luverne, Minn.—Until Feb. 22, by A. D. La Due, pres. First National Bank, for erecting bank building; W. E. E. Greene, archt.

Omaha, Neb.—Until about March 15 by John and Allan McDonald, Omaha National Bank, for erecting store and hotel building at 16th and Harney Sts. for Commercial Realty Co. (H. A. Wolf, mgr.), 514 Ware Blk; cost about $400,000.

Reported desired until Feb. 20, by H. A. Raapke, 1228 City National Bank Bldg., archt., for erecting 2-story and basement, 22 x 140 ft., brick, terra cotta and reinforced concrete fireproof business building and garage, at Farnum St., bet. 35th and 36th Sts., for Chas. R. Sherman; cost about $100,000.

Redfield, S. D.—Reported desired until Mar. 6, by State Bd. Charities and Corrections (W. H. King, secy.) for erecting main building at state school for feeble minded.

Atkins, Ark.—Until March 15 by Bd. Educ. (J. M. Barker, secy.) for erecting 2-story and basement brick school building, 74 x 158; certified check for $500 to accompany bid. Jas. H. Bliss, archt., 607 Southern Trust Bldg., Little Rock.

Plainview, Ark.—Until March 14 by Bd. Educ. (W. F. West, secy.) for erecting 2-story, 73 x 93-ft. school building; certified check for $500 to accompany bid. Jas. H. Bliss, archt., 607 Southern Trust Bldg., Little Rock.

Taft, Cal.—Until Feb. 27 by W. F. McClure, state engr., Forum Bldg., Sacramento, for erecting office building, garage and testing house for State Mining Bureau here; specifications may be obtained from Dept. of Engr., Sacramento.

Idaho Falls, Idaho.—Until Feb. 26, by Bd. Trustees, school Dist. No. 1, Bonnerville Co. (Jas. R. Mason, clk.) for erecting high school; cost about $50,000.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Farrell, Pa.**—Contract awarded by Bd. Educ. to A. Wishart & Sons for erecting school building to cost $60,000.

★**Burlington, N. C.**—Contract awarded McAdams & Mitchell, Burlington, for erecting complete U. S. postoffice here, to cost $56,725.

★**Jacksonville, Fla.**—Contract awarded by Bd. Educ. to R. V. Lebarre, Bisbee Bldg., Jacksonville, for erecting Stanton school building to cost $85,000. Mellen C. Greely, archt.

★**Cleveland, O.**—Contract awarded by Cleveland Railway Co., Leader-News Bldg., to W. I. Thompson & Son, 6110 Euclid Ave., for erecting converter sub-station to cost $60,500.

★**Columbus, O.**—Contract awarded by State Bd. of Administration to Standard Paving Co., Columbus, for erecting building for receiving cottage at Massillon State Hospital, to cost $70,000.

★**Kent, O.**—Contract awarded by Bd. Educ. to Wilbur T. Mills Co., 65 E. Lang St., Columbus, for erecting grade and high school building to cost about $100,000.

★**Lima, O.**—Contract awarded Hamilton Construction Co. for erecting Y. M. C. A. building at $135,000.

★**Middletown, O.** — Contract awarded McCaul Constr. Co., 1715 Sansom St., Philadelphia, for erecting office building of American Rolling Mill Co., at $200,000. Werner & Adkins archts., 1206 Mercantile Library Bldg., Cincinnati.

Somerset, O.—Contract awarded by Bd. Educ. (G. M. Brehn, pres.) to A. L. Foltz & Son, Columbus, for erecting grade and high school here.

★**Irwin, Ia.**—Contract awarded by Bd. Educ. to C. C. Norgaard & Son, 63 N. Main St., Council Bluffs, for erecting high and grade school building to cost $50,000. W. F. Germandt, 437 Keeline Bldg., Omaha, archt.

★**Seattle, Wash.**—Contract awarded by Bd. Educ. to W. B. Lance, Northern Bank & Trust Bldg., for erecting Youngstown school building at $61,000.

★**Wenatchee, Wash.**—Contract awarded Sound Constr. & Engr'g Co., 72 Union St., Seattle, Wash., for erecting complete U. S. postoffice here to cost $74,225.

San Francisco, Cal.—Contract awarded Clinton Constr. Co., 140 Townsend St., for erecting shed on pier No. 29, to cost $104,600.

★**Antigonish, N. S.**—Contracts awarded W. E. Landry for erecting gymnasium of brick and iron construction, for St. Francis Xavier University, to cost $50,000.

★**Kitchener, Ont.**—Contract awarded Dominion Bridge Co., Toronto, for steel work at $50,000 for Church of buff pressed brick construction for Catholic congregation. A. W. Holmes, archt., 10 Bloor St., Toronto.

London, Ont.—See Reinforced Concrete.

★**Toronto, Ont.**—Contract awarded Bate McMahon Co., Ottawa, for erecting at Camp Borden aviation buildings, sewer and water system for Imperial Munition Bd., Royal Bank Bldg., Toronto. Cost $3,000,000.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK

Belmar, N. J.—Legislature has been asked to appropriate $20,000 additional for completion and extension of jetty work at Shark River Inlet. Address T. Frank Appleby, Asbury Park.

Johnstown, Pa.—Council considering bond issue of $50,000 for constructing river wall.

York, Pa.—York Haven Water & Power Co. contemplates constructing dam across eastern channel of Susquehanna River near present plant to improve water power facilities.

Elizabethton, Tenn.—Reported that J. H. Grayson, Bristol, contemplates constructing dam across Watauga River to develop water power.

Columbus, O.—Flood protection bonds for $3,500,000 was passed by City Council.

Milwaukee, Wis.—See "Reinforced Concrete."

Muscatine, Ia.—Levee Improv Comn. (J. J. Ryan,, engr.) has adopted plans for levees within city limits from Front St. and Hershey Ave., intersection to south limits; cost $24,900.

Fullerton, Neb.—Fullerton Electric & Power Co., contemplates constructing dam across Cedar River.

Edith, Mo.—C. F. Robertson and associates contemplate constructing dam and power plant on Niangua River; also a 25-mile railway from Lebanon to Edith; cost $4,000,000.

Clifton, Tex.—Bonds for $160,000 for flood protection and bridges have been voted.

Vancouver, Wash.—Standard Electric & Chemical Co., recently incorporated with a capital of $40,000,000 for purpose of developing water power on Deschutes River and transmit the energy to Vancouver, also construct a nitrate producing plant here. Work to begin next summer.

Banning, Cal.—Marcus Pluth, 111 W. 90th St., Los Angeles, has applied to State Water Comn. for permission to appropriate 60 miner's inches of water from Snow Creek and Whitewater River for power purposes; also to construct four hydro-electric plants, two on each street.

Brawley, Cal.—Imperial Mutual Water Co., No. 3 (Sidney McHarg, pres.), has made proposition to the Imperial Irrigattion Dist., El Centro, for construction of earthen dam costing about $60,000 to be constructed two miles south of Rockwood to raise the water level in the district's canals and secure a flow through the Alamo Channel to the mutual company's territory in northern part of valley; it is expected that district will pay $25,000 of cost. C. K. Clarke, ch. engr.

Los Angeles, Cal.—Wm. Mulholland and Maj. G. B. Pillsbury, Los Angeles, have been appointed members of an advisory Bd. of Engrs. to assist in flood control work in county. Election to be held Feb. 22 to vote on $4,450,000 bonds for this work. J. W. Reagan, Co. flood control engr.

San Francisco, Cal.—See "Reinforced Concrete."

BIDS DESIRED

Woods Hole, Mass.—Until Mar. 7, by Treas. Dept., U. S. Coast Guard, Washington, D. C. (E. P. Bertholf, capt. commandant), for constructing wharf here.

Lake Worth, Fla.—Until about Mar. 1, by Town Comr., for constructing 10 blocks of sea wall; cost about $25,000. G. H. Childs, engr.

Tacoma, Wash.—Until Mar. 8, by W. J. Roberts, ch. engr., Inter-County River Impt., Court House, for furnishing 5000 cords of bruch and 5000 tons rock ballast, materials to be delivered on banks of Puyallup River between Puyallup and Tacoma.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Kearney, N. J.**—Contract awarded by the Ford Motor Car Co., 17 Halsey St. Newark, to Foundation Co., 233 B'way, New York, N. Y., for constructing 1000 ft. bulkhead on Hackensack River fronting property recently acquired for automobile plant for which plans have been completed for first unit to have capacity of 300 cars per day; cost $1,000,000.

★**San Diego, Cal.**—Contract awarded Davey & Hawkins, at $12,036 for constructing riprap wall for bulkhead at municipal pier.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK

Hartford, Conn.—Plans completed by Col. Chas. W. McKinstry, U. S. Engrs. Office, New London, for dredging Connecticut River, Hartford; cost $15,000.

Rochester, N. Y.—River deepening bonds for $150,000 have been sold by the city.

Sweedesboro, N. J.—Congress has appropriated $44,770 for improving Racoon Creek. Government will advertise later for bids for dredging stream.

Kingstree, S. C. — Kingstree Swamp Drainage Dist. organized (W. K. Wilson, chm. of comn.), contemplates draining about 41,000 acres in Broad or Kingstree Swamp from where it enters Black River in Wiliamsburg County; cost $47,000. F. G. Eason, engr., Columbia, S. C.

Morganfield, Ky.—Contract will soon be let for constructing H. A. Roberts Public Ditch, to consist of 7 miles open ditch work, approximately 250,000 cu. yd. earth excav., 2½ miles lateral ditches, approximately 50,000 cu. yd. earth excav., 80 acres clearing and grubbing. Norman R. Orcutt, engr., Morgansfield.

Columbus, O.—Following improvements contemplated to channel: About 2,000,000 cu. yd. excav., constructing one reinforced concrete bridge 700 ft. long, concrete walls, level protection, etc.; cost $3,500,000. Henry Maetzel, ch. engr., Bd. Public Service.

Greenville, O.—Plans and specifications will be ready about March 1 for constructing interstate ditch in Randolph County, Ind., and Darke County, O.; cost about $100,000. Harry C. Miller, co. engr., Greenville.

Brazil, Ind.—Bonds for deepening and widening Eel River in several places have been sold by city, Feb. 8. Wm. V. Graeser, city aud.

Waukesha, Wis.—All bids for Troy Drainage Project rejected by county board; lowest bid $58,000. Ray M. Funk, co. aud.

Algona, Ia.—Drainage bonds for $32,000 have been sold by county. E. H. Beardsley, co. aud.

Mason City, Ia.—Contract will soon be let by Geo. E. Frost, co. aud., for constructing Ditch No. 40, consisting of 380,000 cu. yd. excavation; cost $365,000.

Northwood, Ia.—County sold $150,000 bonds for drainage in Worth County. C. N. Urdahl, co. aud.

Northwood, Ia.—Drainage bonds for $150,000 have been sold. C. N. Urdahl, co. aud.

Fairmont, Minn.—All bids opened by H. C. Nolte, co. aud., for constructing Judicial Ditch No. 77 in Cedar Township have been rejected; new bids will be called for.

Jackson, Minn.—Bonds for $13,000 for repairing Judicial Ditch No. 3 will be sold. P. D. McKellar, co. aud.

Pillager, Minn.—Bonds for $28,700 for constructing Judicial Ditch No. 3 will be sold. D. C. Bacon, co. aud.

Pine City, Minn.—Reported $30,000 drainage bonds will be sold Feb. 19 by W. H. Hamlin, co. aud.

Cathlamet, Wash.—Barr & Cunningham, cons. engrs., Spalding Bldg., Portland, Ore., engaged to handle the diking project in Wahkiakum Drainage Dist., No. 2, providing for reclamation of 4400 acres of Columbia River bottom land between Cathlamet and Skomokawa, in county; cost $150,000.

El Paso, Tex.—Attorney General's Dept., Austin, has approved issue of $75,000 drainage bonds, $100,000 for septic tank, $40,000 for sewers and $40,000 for street and alleys.

Grants Pass, Ore.—Southside Irrigation Dist., consisting of 8000 acres in this vicinity, has been formed, and contemplates constructing gravity canals from Rogue River for irrigation; cost $240,000.

Grants Pass, Ore.—Southside Irrigation Dist. (Geo. Dickinson, treas.), involving about 8,000 acres in this vicinity, has been formed; water will be taken from Rouge River by means of gravity canals; cost $240,000.

Hermiston, Ore. — Westland Irrigation Dist. (G. W. Rugg, secy.-treas.) formed for purpose of taking water from Umatilla River below Furnish Dam, siphon it across Bond Bros.'s ranch and convey it several miles to the mouth of Alkali Canyon, where large reservoir will be built; cost $200,000.

Colusa, Cal.—Cheney Slough Irrigation Co., Colusa, contemplate taking 162 sec.-ft. of water from Sacramento River for irrigation, to include a 36-in. and 26-in. centrifugal pump, one 300 and one 150-hp. motor, also construct canals; cost $50,000.

Fairoaks, Cal.—Formation of irrigation district containing 3,000 acres in this vicinity is proposed; cost $140,000.

Fresno, Cal.—Landowners of Fresno Co. recently voted their approval of plans to construct reservoir at Pine Flats to supply water to irrigate 1,000,000 acres in Fresno, Tulare and Kings Counties; hydro electric power for drainage will also be developed. Committee to be named to ascertain if Fresno Irrigation Dist. desires to enter into project.

Hesperia, Cal.—Election to be held March 27, to authorize formation of the Mojave River Irrigation Dist., to construct dam on west fork of Mojave River to impound 76,000 acre ft. of water for irrigating 28,000 acres in Victor and Apple Valleys on east side of Mojave River; cost $2,500,000. F. E. Trask, engr., 616 Union Oil Bldg., Los Angeles.

Long Beach, Cal.—According to report of Clark H. Shaw, ch. engr. water dept., about 86,000 cu. yd. of silt must be dredged from municipal harbor to make it navigable.

Siskiyou, Cal.—County contemplates irrigation of about 10,000 acres in Siskiyou County. J. Pritt, engr., Montague.

BIDS DESIRED

Newport, R. I.—Until March 13 by U. S. Engr., for sale of sea-going suction dredge Gedney, etc.; advertised in this issue.

New York, N. Y.—For 3500 cu. yd. excavation and 8000 sq. yd. concrete highway. Address Box 1434 Eng. Record; advertised in this issue.

Anderson, S. C.—Reported desired until Feb. 26 by Bd. Drain. Comrs., Six and Twenty Creek Drain. Dist., for constructing canal along Six and Twenty Mile Creek and tributaries; work includes about 332,000 cu. yd. excavation. E. H. Sherer, supt. of constr. and engr.

Senatobia, Miss.—Until Mar. 8, for constructing 1,053,000 cu. yd. excavation for Arkabutla Creek Drain Dist.

Slayton, Minn.—Until Feb. 28, by E. V. O'Brien, co. aud. for constructing Judicial Ditches Nos. 12, main 12A, 12B, 22, 23 and Co. Ditch No. 49; work includes for Ditch 12 main about 1,065,500 ft. of from 6 to 34-in tile, cost about $55,657; Ditch No. 12A, 126,000 ft. of 7 to 34-in. tile, cost $44,491; Ditch 12B, 61, 150 ft. of 7 to 30-in. tile, cost about $34,034; Ditch No. 22, 28,860 ft. of 6 to 18-in tile, cost about $7,443; Ditch No. 23, 59,360 ft. of 6 to 28-in. tile, cost about $33,380; Ditch No. 49, 25,915 ft. of 6 to 18-in. tile, cost about $5,422. Until Feb. 27, same place as above for constructing and repairing Co. Ditches; Ditch No. 6 includes about 32,700 ft. of 6 to 28-in. tile, cost about $15,315; repair and extension of Ditch No. 11, about 31,135 ft. of 6 to 24-in. tile, cost about $12,002; Ditch No. 50, about 26,600 ft. of 6 to 18-in. tile, cost about $7,407; Ditch No. 51, about 40,600 ft. of 6 to 20-in. tile, cost about $10,463; Ditch No. 52 about 19,700 ft. of 6 to 20-in. tile, cost about $6,424.

Cottonwood Falls, Kan.—Until Feb. 26, by Bd. Superv. Drain. Dist. No. 1 (E. A. Stout, secy.) for constructing ditch about 10,000 ft. long, including about 77,000 cu. yd. excavation; H. B. Walker, drain. engr., Manhattan.

Madison, S. D.—Until March 14 by Co. Comrs., Lake Co. (D. M. Finnie, chmn.) for constructing Co. Ditches Nos. 2, 3, 4, 7 and 10; work includes about 81,450 lin. ft. of from 6 to 15-in. tile; advertised in this issue.

Ft. Laramie, Wyo.—Until Mar. 15, by U. S. Reclamation Serv., for earthwork and structures on Ft. Laramie Canal, North Platte Project, work includes about 2,227,000 cu. yd. excavation, 3200 cu. yd. concrete, 190,000 lb. of steel, etc. A. P. Davis, ch. engr., Washington, D. C., advertised in this issue.

Powell, Wyo.—Until March 15, by U. S. Reclamation Serv., for constructing laterals on Shoshone irrigation project, near the stations of Frannie, Mantua and Garland on C. B. & Q. R. R.; work includes about 225,000 cu. yd. excavation.

PRICES AND LETTINGS

★Indicates award of contract.

★Norfolk, Va.—Contract awarded by U. S. Engrs. to Coastwise Dredging Co., Norfolk, Va., at $13,764, for dredging southern branch of Elizabeth River. (Bids opened Jan. 29.)

★Salisbury, N. C.—Contract awarded by Grant's Creek D. D. No. 2, to Karr & Moon, Salisbury, N. C., at $12,000, for constructing 4 miles of ditching, in all about 197,000 cu. yd.

Savannah, Ga.—Following are four lowest bids opened Feb. 5 by Col. John Millis, corps engrs., U. S. A., for dredging 21 ft. channel; (a) 320,000 cu. yd. dredging, (b) removing 1,000 cu. yd. boulders: L. T. Gaylord, 13 Park Row, New York, N. Y., (a) $116,480, (b) $5,000; John Emile, 217 Duval Bldg., Jacksonville, (a) $120,000, (b) $750; P. Sanford Ross, Inc., Jersey City, N. J., (a) $121,280, (b) $2,000; Coastwise Dredg. Co., Norfolk, Va., (a) $121,600, (b) $8,000.

★Palatka, Fla.—Contract awarded by Comrs. Bostwick Drainage Dist. (W. R. Revels, chmn.) for constructing drainage system to Bryson & Bryson, Jacksonville, at 16 cts. per cu. yd. for 137,000 cu. yd. excav., with all clearing, etc., for canals. E. W. Watkins, engr. of dist.

Plymouth, Ind.—Following are bids opened Feb. 3 by A. W. Thomson, co. surv., for constructing Philemon Phillips Ditch, in Marshall county: Natl. Drain Tile Co., Terre Haute, Arm 1 (tile), $2,275; Good Bros., Knox, Ind., Main, Arm 2 and 4 (tile and open), $7,800.

★Forest City, Ia.—Contract awarded by C. K. Nelson, co. aud., for constructing Drainage Dist. No. 57: Tile, Minneapolis Pipe & Tile Co., Mankato, $50,912; labor, Severson & Larson, Albert Lea, $21,392. (Bids opened Jan. 31.)

★Glenwood, Ia.—Contract awarded L. E. Sternberg, Memphis, Mo., at 7.17 cts. per cu. yd. for constructing drainage ditch to consist of 400,000 cu. yd. excav. B. E. Humphrey, co. aud.

★Buffalo, Minn.—Contract awarded by John A. Berg, co. aud., for constructing 119,210 cu. yd. excav. for Judicial Ditch No. 4 to Northern Minn. Drainage Co., Backus, Minn., at $14,023. (Bids opened Feb. 2.)

★Donna, Tex. — Contract awarded by Donna Irrigation Dist. (J. B. Merriwether, pres.) to Watts Bros., Donna, for constructing reservoir for the irrigation system, to consist of about 60,500 cu. yd. earth work and 21 acres clearing and grubbing. Bids opened Jan. 27.

★El Centro, Cal.—Contract awarded Leroy Little, Calexico, at about $85,000 for constructing connecting canal between Cudahy Creek and Cerro Prieta for Imperial Irrigation Dist., El Centro.

TUNNELS AND SUBWAYS

PROPOSED WORK

New York, N. Y.—Contract will soon be let by Bd. Water Supply, Municipal Bldg., for constructing dam and tunnel to divert water of Schoharie River and carry water under Shandaken mountain to New York City for drinking purposes.

Syracuse, N. Y.—See "Waterworks and Sewerage Systems."

Ardmore, Pa.—Lehigh Valley Coal Co. contemplates driving drainage tunnel five miles long to drain Stockton Basin near Ardmore.

Cleveland, O.—Election will probably be held in the spring for issuing $5,000,000 for extending high-level bridge subway from W. 6th St. and Superior Ave. to Public Sq., in view of fact that officials of Cleveland Ry. Co., Cleveland Leader-News Bldg., and city officials, and Fielder Sanders, city Street RR. Comr., agreed it necessary.

BIDS DESIRED

Los Angeles, Cal.—Until Feb. 26 by Bd. Pub. Wks. (Horace B. Ferris, secy.) for constructing 2d St. tunnel through Bunker Hill from Hill St. to Figueroa St., about 1 mile, to carry paved roadway and street railway tracks and to be lined with glazed brick or tile; cost about $900,000. Homer Hamlin, city engr.

PRICES AND LETTINGS

★Indicates award of contract.

Philadelphia, Pa.—Following are totals of bids opened Feb. 7 by W. S. Twining, Dir. Dept. City Transit, for Contracts 201, 202 and 203, for delivery subway loop: Keystone State Constr. Co., Penn Bldg., Philadelphia, $5,784,000; Smith, Hauser & MacIsaac Co., 18 E. 41st St., New York City, $6,049,000; Underpinning & Found. Co., 290 Bway., New York City, $6,952,000; Rogers, Hagerty & Co., $8,139,000; E. E. Smith & Co., 1424 Fairmount St., Philadelphia, bid on Contracts Nos. 201 and 203, $3,352,000.

★Milwaukee, Wis. — Contract awarded Henry O. Bossert, 848 Jackson St., at $28,204, for constructing 40th St. tunnel from Watertown plank road to Chestnut St.

MISCELLANEOUS

PROPOSED WORK

New Brunswick, N. J.—See "Structural Steel."

Dredge—Trenton, N. J.—Bill has been introduced into Legislature by Senator Lewis T. Stevens, Cape May, asking for appropriation of $30,000 for building, maintaining and operating a dredge to be used in construction of inland waterway, extending from Cape May to Bay Head.

Park—Philadelphia, Pa.—Mayor Thos. B. Smith has signed ordinance to take property between Vine, Daggett and 73rd Sts. and City Ave. for extension to Cobbs and Creek Park; cost about $600,000.

Incinerator—Selma, Ala.—City contemplates constructing garbage incinerator.

Piling—Cleveland, O.—Fred. C. Noble, engr., 50 Church St., New York, N. Y., reports piling will be necessary under main section of West Side filtration plant, for safety of building. He estimates cost at $100,000.

Park Bonds—Minneapolis, Minn.—Minneapolis Park Bd. has asked Hennepin County to issue $125,000 bonds for park purposes.

Swimming Pool, Etc.—Waco, Tex.—City Comn. has called for election to be held Mar. 7 for issuing $25,000 for municipal swimming pool, $25,000 for paving and $25,000 for sanitary sewers.

Park—Colorado Springs, Col.—Annual appropriation of $25,832 has been made for constructing and maintaining parks for year 1917.

Transmission Line—Modesto, Cal.—Sierra & San Francisco Power Co., 58 Sutter St., San Francisco, contemplate constructing transmission line into Modesto; cost $36,000.

BIDS DESIRED

Brooms, Newark, N. J.—Until Mar. 1, by Bd. Street and Water Comrs., for furnishing about 25 gross of road or corporation street cleaning brooms and 15 gross of brass brooms for use by Street Cleaning Division; specifications may be obtained from M. R. Sherrerd, ch. engr., City Hall.

Caterpillar Tractors—Washington, D. C.—Until Feb. 20, by Maj. Chas. S. Wallace, signal corps, for proposal 912, for furnishing caterpillar tractors; cost about $10,000.

Hydraulic Turbine—Rock Island, Ill.—Until Feb. 28, by George W. Burr, commanding officer, for furnishing 4 hydraulic turbine units complete and 4 additional ring curbs for future use.

Lixiviator—Summerland, Cal.—Until Feb. 20, by Dr. J. W. Turrentine, Arlington Hotel, Santa Barbara, for furnishing one lixiviator, consisting of a supply tank and and screw conveyor 37 ft. long, to U. S. Dept. Agriculture here; advertised in this issue.

PRICES AND LETTINGS

★Indicates award of contract.

Boiler—Seaside Park, N. J.—Following are bids opened Feb. 3 by Aaron Wilbert, borough clk., for 125-hp. boiler, 250-hp. heater, etc.: T. T. Burchfield Co., 54 N. 6th St., Philadelphia, $8,500; Keystone Heating & Equipment Co., 1731 Brandywine St., Philadelphia, $14,019.

★**Riprap—Grand Rapids, Mich.**—Contract awarded by U. S. Engrs. (bids opened Dec. 11) to N. P. Nelson & Co., Muskegon, at $125,160, for placing about 56,000 tons of riprap around the breakwaters at Ludington harbor.

Smoke Stack—Tacoma, Wash.—Contract awarded Alphons Custodis Chimney Constr. Co., 95 Nassau St., New York, N. Y., for constructing 571 ft. brick chimney for American Smelting & Refining Co.

Proposals

For Proposals Advertised See Pages 56, 57, 58, 59 and 60

WATER WORKS AND SEWERAGE SYSTEMS

Bids Close.		See Eng. Record.
Feb. 20.	Ft. H. G. Wright, N. Y. Adv. Jan. 20 to Feb. 10.	Jan. 20
Feb. 20.	Oswego, N. Y. Adv. Jan. 20 to Feb. 10.	Jan. 27
Feb. 20.	Alliance, O.	Feb. 10
Feb. 20.	Bayonne, N. J.	Feb. 10
Feb. 20.	Beaumont, Tex. Adv. Feb. 17.	Feb. 17
Feb. 20.	Boston, Mass.	Feb. 17
Feb. 21.	Emmett, Idaho	Feb. 3
Feb. 21.	Newark, N. Y. Adv. Feb. 3, 10.	Feb. 3
Feb. 21.	Baltimore, Md. Adv. Feb. 10.	Feb. 10
Feb. 21.	Cleveland, O.	Feb. 17
Feb. 23.	Milwaukee, Wis Adv. Feb. 10, 17.	Feb. 10
Feb. 23.	Stroud, Okla.	Feb. 17
Feb. 23.	Anaheim, Cal.	Feb. 17
Feb. 24.	Niagara Falls, N. Y. Adv. Feb. 17.	Feb. 17
Feb. 24.	Denver, Iowa	Feb. 17
Feb. 27.	Toronto, Ont.	Feb. 10
Feb. 26.	Larned, Kan.	Feb. 17
Feb. 26.	New York, N. Y.	Feb. 17
Feb. 27.	Clarksdale, Miss. Adv. Feb. 17.	Feb. 17
Feb. 28.	Burlington, Ia. Adv. Feb. 10, 17.	Feb. 10
Mar. 1.	Big Sandy, Mont.	Feb. 3
Mar. 1.	Springfield, Ill.	Jan. 13
Mar. 1.	Portage, Wis.	Feb. 17
Mar. 1.	Tecumseh, Ont.	Feb. 17
Mar. 6.	New York, N. Y.	Feb. 17
Mar. 6.	Chilton, Wis.	Dec. 2
Mar. 7.	E. View (Cleveland P. O.), Ohio	Feb. 3
Mar. 7.	Castlewood, S. D.	Feb. 17
Mar. 10.	Ravenna, O.	Jan. 27
Mar. 10.	Ravenna, O.	Feb. 10
Mar. 12.	McKeesport, Pa. Adv. Feb. 17.	Feb. 17
Mar. 15.	Winnipeg, Man. Adv. Feb. 10, 17.	Feb. 10
Mar. 15.	Ogdensburg, N. J.	Feb. 17
Apr. 1.	Gibson, Ill.	Dec. 23
Apr. 1.	Mt. Vernon, O.	Dec. 23
Apr. 1.	Hillsboro, Ill.	Jan. 27

STRUCTURAL STEEL WORK

Feb. 20.	Vinton, Ia.	Jan. 27
Feb. 20.	Council Bluffs, Ia.	Feb. 10
Feb. 20.	St. Louis, Mo.	Feb. 17
Feb. 25.	Marshalltown, Ia.	Feb. 10
Feb. 26.	Akron, O.	Feb. 3
Feb. 26.	Anna, Ill.	Feb. 17
Feb. 28.	Albany, N. Y. Adv. Feb. 3, 10, 17.	Feb. 10
Feb. 28.	Brandenburg, Ky.	Jan. 27
Mar. 1.	Horatio, Ark.	Feb. 10
Mar. 1.	New Ulm, Minn.	Feb. 17
Mar. 2.	Seattle, Wash.	Feb. 17
Mar. 2.	Summerland, Cal. Adv. Feb. 17.	Feb. 17
Mar. 5.	Brookville, Ind.	Feb. 3
Mar. 6.	Dillon, Mont.	Feb. 10
Mar. 6.	Lewisburg, W. Va. Adv. Feb. 17.	Feb. 17
Mar. 7.	Dillon, Mont.	Jan. 27
Mar. 14.	Charleston, W. Va. Adv. Feb. 17.	Feb. 17
Mar. 15.	Detroit, Mich. Adv. Feb. 10, 17.	Feb. 10

REINFORCED CONCRETE

Feb. 20.	Fleming, Ky.	Feb. 10
Feb. 20.	Toledo, O.	Feb. 10
Feb. 23.	Mont Clare, Pa.	Feb. 10
Feb. 25.	Greenville, S. C.	Feb. 10
Feb. 26.	Boston, Mass.	Feb. 10
Feb. 27.	Alma, Mich.	Feb. 17
Feb. 28.	Mt. Vernon, N. Y. Adv. Feb. 10, 17.	Feb. 10
Mar. 1.	Charleston, S. C. Adv. Feb. 10, 17.	Feb. 10
Mar. 3.	Ft. Atkinson, Wis.	Feb. 17
Mar. 5.	Grand Rapids, Mich. Adv. Feb. 10, 17.	Feb. 10
Mar. 9.	Milwaukee, Wis. Adv. Feb. 10, 17.	Feb. 10
Mar. 12.	Washington, D. C.	Feb. 10
Mar. 12.	Ludington Harbor, Mich. Adv. Feb. 17.	Feb. 17
Mar. 15.	Owatonna, Minn.	Feb. 17
Mar. 20.	Geneva, N. Y. Adv. Feb. 17.	Feb. 17
Mar. 26.	Hazard, Ky.	Feb 10

ROADS AND PAVING

Feb. 19.	Albany, N. Y. Adv. Feb. 3, 10, 17.	Feb. 3
Feb. 20.	Great Falls, Mont.	Feb. 10
Feb. 20.	Jacksonville, Fla.	Feb. 17
Feb. 20.	St. Louis, Mo.	Feb. 17
Feb. 21.	Parkersburg, W. Va.	Jan. 27
Feb. 21.	Wooster, O.	Feb. 17
Feb. 22.	Grundy, Va.	Jan. 20
Feb. 23.	Olean, N. Y. Adv. Feb. 3.	Feb. 3
Feb. 25.	San Francisco, Cal.	Feb. 10
Feb. 25.	Geismar, La.	Feb. 10
Feb. 26.	Seattle, Wash.	Jan. 27
Feb. 26.	Wallace, Idaho	Feb. 10
Feb. 26.	Fitchburg, Mass. Adv. Feb. 10, 17.	Feb. 10
Feb. 26.	New Brunswick, N. J.	Feb. 17
Feb. 26.	Woodland, Cal.	Feb. 17
Feb. 27.	Seattle, Wash.	Jan. 27
Feb. 27.	Hampton, Ia.	Feb. 17
Feb. 27.	Hayti, S. D.	Feb. 17
Feb. 27.	Sharon, Pa.	Feb. 17
Feb. 28.	Tompkinsville, Ky.	Jan. 27
Feb. 28.	Whitley City, Kan.	Jan. 27
Feb. 28.	Jacksonville, Fla.	Feb. 3
Feb. 28.	Wallace, Idaho	Feb. 17
Mar. 1.	Manchester, Conn.	Jan. 20
Mar. 1.	Roanoke, Ala. Adv. Feb. 10, 17.	Feb. 10
Mar. 1.	Menasha, Wis.	Feb. 17
Mar. 2.	Tompkinsville, Ky.	Jan. 27
Mar. 3.	Plymouth, Ind.	Feb. 17
Mar. 4.	Franklin, Pa. Adv. Feb. 17.	Feb. 17
Mar. 5.	Newton, N. J. Adv. Feb. 17.	Feb. 17
Mar. 5.	Ventnor City, N. J. Adv. Feb. 17.	Feb. 17
Mar. 5.	Lewiston, Idaho	Feb. 17
Mar. 5.	Douglas, Ariz.	Feb. 17
Mar. 6.	Irvington, N. Y. Adv. Feb. 17.	Feb. 17
Mar. 6.	Portage, Wis. Adv. Feb. 17.	Feb. 17
Mar. 8.	Jackson, Ind.	Feb. 17
Mar. 10.	Bloomington, Ill.	Feb. 17
Mar. 15.	Cadiz, O.	Jan. 27
Mar. 18.	Kent, O.	Dec. 30
Mar. 20.	Olive Hull, Ky.	Feb. 10
Mar. 23.	Jamestown, Ky.	Feb. 10
Mar. 24.	Wayland, Ky.	Feb. 10
Mar. 24.	Hyden, Ky.	Feb. 10
Mar. 29.	Pennsboro, W. Va.	Feb. 17
Mar. 30	Canton, Ill.	Jan. 20
Mar. 30.	Naperville, Ill.	Jan. 27
Apr. 1.	Virginia, Ill.	Jan. 13
Apr. 1.	East Rochester, N. Y.	Feb. 17
Apr. 3.	Madisonville, Wis.	Jan. 27

INDUSTRIAL PLANTS AND WAREHOUSES

Feb. 20.	Elkhorn, Wis.	Feb. 17
Feb. 23.	New York, N. Y.	Feb. 17
Feb. 26.	Vallejo, Cal.	Jan. 27
Mar. 1.	Lenox, Ky.	Feb. 3
Mar. 15.	Buffalo, N. Y. Adv. Feb. 17.	Feb. 17

RAILROADS

Feb. 28.	Lake Toxoway, N. C. Adv. Feb. 17.	Feb. 17

BUILDINGS
Public and Private

Feb. 20.	Des Moines, Ia.	Jan. 20
Feb. 20.	Albany, N. Y.	Feb. 3
Feb. 20.	Leesburg, Ga.	Feb. 3
Feb. 20.	Iowa City, Ia.	Feb. 10
Feb. 20.	Frankford, Pa.	Feb. 10
Feb. 20.	New Market, N. J.	Feb. 10
Feb. 20.	Butte, Mont.	Feb. 10
Feb. 20.	Cleveland, O.	Feb. 17
Feb. 20.	Toledo, O.	Feb. 17
Feb. 20.	Omaha, Neb.	Feb. 17
Feb. 21.	Mena, Ark.	Jan. 30
Feb. 21.	Detroit, Mich.	Feb. 10
Feb. 22.	Luverne, Minn.	Feb. 17
Feb. 22.	Bridgetown, N. J.	Feb. 17
Feb. 23.	Caribou, Me. Adv. Jan. 20, 27.	Jan. 20
Feb. 23.	Geneva, N. Y. Adv. Feb. 10, 17.	Feb. 10
Feb. 23.	Greenville, Pa.	Feb. 10
Feb. 23.	Boston, Mass.	Feb. 17
Feb. 23.	Philadelphia, Pa.	Feb. 17
Feb. 24.	Detroit, Mich.	Feb. 17
Feb. 24.	Cloquet, Minn.	Feb. 17
Feb. 26.	Miami, Fla.	Jan. 30
Feb. 26.	Bartow, Fla.	Jan. 27
Feb. 26.	Willows, Cal.	Feb. 10
Feb. 26.	Bartlesville, Okla.	Feb. 10
Feb. 26.	Ithaca, N. Y.	Feb. 17
Feb. 26.	Grand Rapids, Mich.	Feb. 17
Feb. 26.	Idaho Falls, Idaho	Feb. 17
Feb. 27.	Stanford, Fla.	Jan. 27
Feb. 27.	Taft, Cal.	Feb. 17
Feb. 28.	Ft. Morgan, Colo.	Jan. 27
Feb. 28.	Kings Park, N. Y.	Feb. 10
Feb. 28.	Tippecanoe, Ind.	Feb. 17
Mar. 1.	Rochester, Minn.	Jan. 6
Mar. 1.	Butte, Mont.	Jan. 20
Mar. 1.	De Land, Fla. Adv. Jan. 20, 27.	Jan. 26
Mar. 1.	Beeville, Tex. Adv. Jan. 27, Feb. 3.	Jan. 27
Mar. 1.	Farrell, Pa.	Feb. 10
Mar. 1.	Rochester, N. Y.	Feb. 10
Mar. 1.	Allentown, Pa.	Feb. 17
Mar. 1.	Mars, Pa.	Feb. 17
Mar. 2.	Birmingham, Ala.	Feb. 17
Mar. 3.	Basin, Wyo.	Feb. 3
Mar. 5.	Comfrey, Minn.	Jan. 27
Mar. 5.	New Orleans, La. Adv. Feb. 10.	Feb. 10
Mar. 6.	Madison, S. D.	Feb. 3
Mar. 6.	Savanna, Ill.	Feb. 3
Mar. 6.	Chicopee, Mass.	Feb. 10
Mar. 6.	Redfield, S. D.	Feb. 17
Mar. 7.	Bay City, Tex. Adv. Feb. 3, 10.	Feb. 3
Mar. 8.	Sergent Bluff, Ia.	Feb. 10
Mar. 8.	Ann Arbor, Mich.	Feb. 17
Mar. 9.	Hammond, La. Adv. Feb. 3, 10.	Feb. 3
Mar. 12.	Martin, Tenn.	Feb. 3
Mar. 13.	Hiawatha, Kan.	Feb. 3
Mar. 14.	Plainview, Ark.	Feb. 17
Mar. 15.	Atkins, Ark.	Feb. 17
Mar. 15.	Omaha, Neb.	Feb. 17
Mar. 15.	Marion, Ky.	Feb. 17
Mar. 18.	Pulaski, Va.	Feb. 3
Mar. 21.	Martins Ferry, O. Adv. Feb. 17.	Feb. 17
May 1.	Minneapolis, Minn.	Nov 25

FOUNDATIONS, PIERS AND DAMS

Mar. 1.	Lake Worth, Fla.	Feb. 17
Mar. 7.	Woods Hole, Mass.	Feb. 17
Mar. 8.	Grand Rapids, Mich. Adv. Feb. 10, 17.	Feb. 10
Mar. 8.	Tacoma, Wash.	Feb. 17
Mar. 15.	Pensacola, Fla.	Feb. 10

TUNNELS AND SUBWAYS

Feb. 26.	Los Angeles, Cal.	Feb. 17

EXCAVATION, DREDGING AND DRAINAGE

Feb. 19.	Wilmington, Del. Adv. Jan. 27, Feb. 17.	Jan. 27
Feb. 20.	Garden Prairie, Ill.	Feb. 3
Feb. 21.	Pipestone, Minn.	Feb. 10
Feb. 23.	Crookston, Minn.	Jan. 27
Feb. 23.	Bemidji, Minn.	Feb. 10
Feb. 23.	Passaic, N. J. Adv. Jan. 27 to Feb. 17.	Jan. 27
Feb. 26.	Cottonwood Falls, Kan.	Feb. 17
Feb. 26.	Anderson, S. C.	Feb. 17
Feb. 27.	Olivia, Minn.	Feb. 10
Feb. 27.	Slayton, Minn.	Feb. 17
Feb. 28.	Slayton, Minn.	Feb. 17
Mar. 7.	Alexandria, La.	Jan. 13
Mar. 8.	Baltimore, Md. Adv. Feb. 10, 17.	Feb. 10
Mar. 8.	Senatobia, Miss.	Feb. 17
Mar. 13.	Newport, R. I. Adv. Feb. 17.	Feb. 17
Mar. 14.	Madison, S. D. Adv. Feb. 17.	Feb. 17
Mar. 15.	Ft. Laramie, Wyo. Adv. Feb. 17.	Feb. 17
Mar. 15.	Neoedesha, Kan.	Jan. 27
Mar. 15.	Cedar Rapids, Ia. Adv. Feb. 10.	Jan. 27
Mar. 15.	Powell, Wyo.	Feb. 17
Mar. 20.	Vallejo, Cal.	Feb. 10
———	New York, N. Y. Adv. Feb. 17.	Feb. 17

MISCELLANEOUS

Feb. 20.	Lixiviator, Summerland, Cal.	Feb. 17
Feb. 20.	Sprinkler, Great Falls, Mont. Adv. Feb. 10, 17.	Feb. 10
Feb. 20.	Caterpillar Traction, Washington, D. C.	Feb. 17
Feb. 26.	Bucket Dredge, Vallejo, Cal.	Feb. 3
Feb. 26.	Asphalt, St. John, N. B.	Feb. 3
Feb. 28.	Hydraulic Turbine, Rock Island, Ill.	Feb. 17
Mar. 1.	Brooms—Newark, N. J.	Feb. 17
Mar. 5.	Horses and Props, Louisville, Ky. Adv. Feb. 10, 17.	Feb. 10
Mar. 16.	Hydraulic Lift, Philadelphia, Pa. Adv. Feb. 10, 17.	Feb. 10

SEARCHLIGHT SECTION

Official Proposals

Price, $2.40 an inch—Copy can be received until Wednesday, 5 p. m. for issue mailed the next day

Bids open February 28, 1917.

NOTICE TO CONTRACTORS

BARGE CANAL WORK

STATE OF NEW YORK,
OFFICE OF SUPERINTENDENT OF PUBLIC WORKS,
ALBANY, N. Y.

Sealed proposals will be received by the undersigned at his office in the Capitol at Albany, N. Y., until twelve o'clock noon of Wednesday, Feb. 28, 1917, at which place and hour they will be publicly opened and read, for improving the New York State canals pursuant to the provisions of Chapter 147 of the Laws of 1903, and of the acts amendatory thereof and supplementary thereto, and Chapter 570 of the Laws of 1915, as follows:

1.

CONTRACT NO. 84.
Erie Canal—Section 8.

For constructing portions of a viaduct over the Clyde River and railroad tracks at Clyde.

Sheets 1 to 11 inclusive.

2.

CONTRACT NO. 122-A.
Erie Canal—Section 4.

For constructing the substructure and superstructure, and completing the approaches of a highway bridge over the Mohawk River near Little Falls, at about Barge Canal Center Line Station 4246-42.

Sheets 1 to 11 inclusive.

3.

CONTRACT NO. 131-A.
Champlain Canal—Section 1.

For completing the reconstruction of the highway bridge crossing the main channel of the Hudson River at Schuylerville.

Sheets 1 to 7 inclusive.

Plans may be seen and detailed specifications, engineer's estimate of quantities, proposal blanks, form of contract and bonds required and other information for proposers may be had at the office of the Superintendent of Public Works at Albany, N. Y.; at the office of the Assistant Superintendent of Public Works for the Middle Division at Syracuse, N. Y.; at the office of the Assistant Superintendent of Public Works for the Western Division at Rochester, N. Y., and at the canal office Spaulding's Exchange, Buffalo, N. Y.

Copies of detailed plans or drawings may be obtained from the State Engineer and Surveyor at Albany, N. Y., upon payment to him of the cost of producing them.

Monthly estimates will be paid of ninety per centum (90 per cent) of the work done at the contract price. Every proposal for said work must be accompanied by a money deposit in the form of a draft or certified check upon some good banking institution in the city of Albany or New York, issued by a national or state bank in good credit within the state and payable at sight to the Superintendent of Public Works for five per centum (5 per cent) of the amount of the proposal.

The person whose proposal shall be accepted will be required to execute a contract and furnish bonds within ten days from the date of notice of award delivered to him or them in person or mailed to the address given in the proposal.

Upon execution of the contract and approval of bonds, the certified check or draft will be returned to the proposer unless the same shall have been presented for collection prior to such time, in which case the amount of the deposit will be refunded by the Superintendent of Public Works.

The deposits of bidders other than the one to whom the award of contract shall be made will be returned immediately after the award has been made.

The bond required for the faithful performance of each contract shall be in such sum as shall be fixed by the Superintendent of Public Works, which sum shall not be less than twenty per centum (20 per cent) of the estimated cost of the work according to the contract price, and an additional bond, known as the labor bond, in the sum of ten per centum (10 per cent) of the amount of the estimated cost of the work according to the contract price, will be required as security that the contractor will pay in full at least once in each month all laborers employed by him upon the work specified to be done in the contract.

In the event that more than one surety company is offered as surety on said bonds, co-insurance only will be accepted.

Each proposal must be addressed to the Superintendent of Public Works, Albany, N. Y., and must be endorsed on the envelope with the name of the construction for which the proposal is made.

Award, if made, will be made to the person or persons whose proposal shall be lowest in cost to the state for doing the work and which shall comply with all provisions required to render it formal. Before any award shall be made the lowest bidder will be required to satisfy the Superintendent of Public Works of his ability to provide suitable equipment and materials for the proper performance of the work.

The right is reserved to reject all proposals and readvertise and award the contract in the regular manner if, in the judgment of the undersigned the interests of the State will be enhanced thereby.

W. W. WOTHERSPOON,
Superintendent of Public Works.

January 29, 1917.

Bids open February 28, 1917.

PUMPING ENGINE OR CENTRIFUGAL PUMP

CITIZENS WATER COMPANY.
BURLINGTON, IOWA.

Sealed proposals will be received by the Citizens Water Company at its office, Burlington, Iowa, until 6 p. m., Wednesday, February 28, for a horizontal cross compound crank and fly wheel condensing pumping engine with a capacity of 4200 gallons per minute for pumping water from the river to the settling tanks.

Alternate proposals will also be received at the same time and place for a centrifugal pump for the same work. The centrifugal pump may be driven by a steam turbine or by a compound Corliss condensing engine.

The Citizens Water Company does not bind itself to accept the lowest or any proposal. Copies of specifications may be obtained from,

FRANK LAWLOR,
Superintendent.

February 3, 1917.

Bids open February 19 and 20 1917.

HIGHWAY IMPROVEMENTS

OFFICE OF THE STATE COMMISSION OF HIGHWAYS,
ALBANY, N. Y.

Sealed proposals will be received by the undersigned at their office, No. 55 Lancaster Street, Albany, N. Y., at 1 o'clock p. m., on Monday, the 19th day of February, 1917, for the construction of highways in the following counties:

Albany (one highway—1.45).
Broome (two highways—5.35, 6.93).
Chautauqua (one highway—4.19).
Chenango (one highway, 7.12).
Clinton (one highway, 5.95).
Columbia (one highway—5.02).
Cortland (one highway—2.33).
Erie (four highways—3.54, 0.91, 2.97, 5.26).
Essex (one highway—4.95).
Fulton (one highway, 2.80).
Hamilton (one highway—6.82).
*Herkimer (one highway—5.84).
Monroe (one highway, 2.73).
Montgomery (one highway, 3.63).
Niagara (one highway, 0.61).
Oneida (two highways—6.15, 5.74).
Oswego (one highway—5.63).
Rensselaer (one highway—6.34).
Saratoga (one highway—9.06).
Ulster (one highway—1.80).
Warren (one highway—4.59).
Westchester (one highway—1.09).
*Jefferson (one highway—completion, 4.60).

Sealed proposals will also be received at 1 o'clock p. m., on Tuesday, February 20, 1917, for the improvement of the following highways:

Broome (two highways—2.78, 4.08).
Clinton (one highway—3.34).
Erie (four highways—2.90, 3.02. 2.34, 5.78).
Essex (one highway—8.85).
Fulton (one highway—4.90).
Hamilton (one highway—6.74).
Herkimer (one highway—5.67).
Monroe (one highway—4.56).
Montgomery (one highway—completion, 5.66).
Nassau (one highway—2.99).
Oneida (two highways—0.45, 1.05).
Otsego (one highway—4.09).
Rensselaer (one highway—4.95).
Rockland (one highway—0.24).
St. Lawrence (one highway—4.60).
Schenectady (one highway—3.42)
Schoharie (one highway—5.25).
Seneca (one highway—0.05).
Suffolk (one highway—11.58).
Tompkins (one highway—2.46).
Ulster (one highway—completion, 1.85).
Wayne (one highway—1.88).

Also broken stone, Contract No. 73, Onondaga and Wayne Counties. Approximate 5900 tons.

Maps, plans, specifications and estimates may be seen and proposal forms obtained at the office of the Commission in Albany, N. Y., and also at the office of the Division Engineers in whose division the roads are to be improved. The addresses of the division engineers and the counties in which they are in charge will be furnished on request.

The especial attention of bidders is called to "General Information of Bidders" on the itemized proposal, specifications and contract agreement.

EDWIN DUFFEY,
Commissioner.

I. J. MORRIS,
Secretary.

Submarines Fail to Cut Off Foreign Trade

Domestic Steel Production, However, Suffers, Estimates of Decrease in Output Ranging from 15 to 30 Per Cent—Great Jump in January Exports

SHOULD the German submarine warfare succeed in actually blockading England, Germany would be in a position to make her own terms, and there is no doubt that this country would be left face to face with an extremely serious situation. This contingency, of course, is growing more remote with the decreasing destruction of ocean tonnage reported each day. If, on the other hand, we are to understand that Germany doubted the effectiveness of such a campaign in the first place and desired to make the United States a party to peace negotiations, an early peace, favorable to the Entente Allies, should be prepared for, after which continued business activity in this country will depend to a great extent on our success in meeting the needs of foreign markets. For the present, however, it must be recognized that the temporary check administered during the first half of February to ocean freight movements from our Atlantic seaboard has prolonged the car shortage, hampered rail traffic, contributed to further rises in commodity prices and caused further curtailment of steel production. The decrease in the rate of the production of finished steel is variously estimated at from 15 to 30 per cent, as it is stated that the production of pig iron in the district dependent upon Connellsville coke, representing three-eighths of the furnace capacity of the country, has amounted to 60 per cent. Although orders appear to have declined slightly in volume since the first of the year, there is no prospect of any lessening of foreign demand for steel or any continued decrease in domestic consumption. Steel mills are sold far in advance, rails to be delivered in the last quarter of 1918 having been contracted for. Contractors and others purchasing steel for construction work still have to reckon with the probability of our own government entering the market for large quantities of war steel. Should this occur, it is evident that an increase rather than a reduction would be in order in the shipping of steel products to the Entente Allies, and that private domestic consumers would be the ones to have to do without steel. The construction field would undoubtedly be one of the first to feel the effects of such a situation.

A jump which is astonishing, even in view of the great recent growth of our export trade, occurred in the value of American exports for the month of January, which reached the figure of $613,000,000. Exceeding as it does by 18 per cent the new record established in the preceding month, this figure is surprising. In view of the recent reduction in ocean freight traffic it appears likely to stand as a record for a longer period than some of its predecessors.

Buildings

Building work noted in this issue includes the following projected construction:

	Kind	Cost
Wildwood, N. J.	Hotel	$1,000,000
Chicago, Ill.	Gas plant	5,000,000
Milwaukee, Wis.	Warehouse	380,000
St. Paul, Minn.	Union depot	11,000,000
San Francisco, Cal.	Refinery	2,500,000
Toronto, Ont.	Munitions plant	3,000,000

Roads and Paving

Many coming elections are noted in this issue at which road construction involving large sums will be voted on. Among other proposed highway construction the following projects are noted:

	Kind	Cost
Bridgeport, Conn.	Street improvements	$2,250,000
Pittsburgh, Pa.	Boulevard	900,000
Toledo, Ohio	Paving	1,000,000
DeRidder, La.	Highways	500,000
Crowley, La.	Bonds voted	400,000
Spencer, Iowa	Bonds sold	773,000
Oregon	Road improvements	1,800,000

Waterworks and Sewers

The lowest bid received for constructing a water-purification plant at Flint, Mich., was $287,000. A contract for sewer construction to cost $302,000 has been awarded at Portland, Ore. Plans have been completed at Springfield, Ill., for sewer construction to cost $175,000. A high-pressure water main to be constructed for a new addition to the city of Detroit will cost $1,500,000. Minneapolis has engaged a consulting engineer in connection with the construction of the new $1,200,000 filtration plant. It is reported that Los Angeles will spend $275,000 on sewage-disposal work.

Miscellaneous Headings

The date of opening bids for constructing the $800,000 tunnel in Los Angeles has been changed to March 26. Railroad improvements to be made near Glenn's Run, W. Va., will cost $1,000,000. A bill has been signed by the governor at Little Rock, Ark., creating a levee district authorized to issue $1,200,000 bonds. A railway line to be built near Mitchell, S. D., will cost $2,000,000. Irrigation work costing $1,000,000 is under consideration at Medford, Ore. Plans have been prepared for railroad water-terminal improvements at San Francisco to cost $2,000,000. The construction of a rock dike at a cost of $1,125,000 is contemplated at Vallejo, Cal. The city of Los Angeles has applied for permission to construct a $1,500,000 hydroelectric plant.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Where name of official is not given inquiries should be addressed to City Clerk, County Clerk or corresponding official.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK

Barre, Vt.—City considering extending water system. Frank O. Lee, city engr.

Revere, Mass.—Town considers laying about 1 mile of water mains. Carl G. Richmond, supt. pub. wks.

Bridgeport, Conn.—See "Roads and Paving."

Torrington, Conn.—Reported trunk line sewers will be constructed this spring. C. A. Patterson, boro. engr.

Little Falls, N. Y.—City Engr. Geo. I. Oakley, in his annual report to Bd. Pub. Wks., recommends construction of either a large reservoir on Beaver Creek or a smaller reservoir above present city distribution reservoir.

Mineola, L. I., N. Y.—Various civic associations in Nassau Co., and officials from about 21 villages in county are discussing means of disposing of sewage and garbage in sections where no disposal plants exist, and will petition State Legislature for permission to construct and negotiate with each other for purpose of forming garbage and sewer districts.

Bayonne, N. J.—Walter L. Clarkson, city engr., to prepare plans for water plant; cost, about $500,000.

Bloomfield, N. J.—Contracts will be let in March for c. i. pipe. Wm. R. Rawson, supt. waterworks. Ernest Baechlin, town engr.

Cliffside Park, N. J.—City planning sewer system; cost about $25,000. McClave McClave, city engrs.

Fanwood, N. J.—Fuller & McClintock, engrs., have been engaged by Council to make surveys and estimates of cost for installation of sanitary sewer system, to connect with the Plainfield system.

Fords, N. J.—Morgan Larson, twp. engr., making surveys and estimates of cost for the installation of a complete sewerage system.

Mendham, N. J.—Boro. Clerk Leo Robinson writes that ordinance has not passed final reading; bids will not be received until April for proposed reservoir of 8,000,000 gal. capacity, 14,000 ft. 8-in. water pipe; cost about $30,000. F. O. Pitney, engr., Morristown.

Linden, N. J.—Township Comn. contemplates building trunk sewer in St. George and the Greater Elizabeth sections; cost about $75,000. Jacob L. Bauer, co. engr., Elizabeth.

Newark, N. J.—Following improvements planned at Port Newark Terminal: Sewers, $155,000; tracks for railway line, $120,000; bridge across Oak Island station of Lehigh Valley RR., $200,000; bridge and approach at Port St., $165,000; paving, $130,000; dock, etc., $155,000. Appropriation of $500,000 will be asked of Legislature. Morris B. Sherrerd, ch. engr., Bd. Pub. Wks.

Perth Amboy, N. J.—See "Miscellaneous."

Trenton, N. J.—City has sold $40,000 bonds to be used for sewer improvements.

Athens, Pa.—Plans being prepared for sewer system; cost about $35,000. R. R. Fernow, engr., 817 Weightman Bldg., Philadelphia. C. W. Tidd, boro secy.

Kane, Pa.—Reported that construction of sewage disposal plant and additional sewers being considered. Roy S. Braden, city engr.

Marcus Hook, Pa.—Aston Water Co. plans extending its water system through Aston to Linwood Heights, including Upper Chichester Township. Company is a subsidiary of the Chester (Pa.) Water Co.

Norristown, Pa.—Boro. considering construction of storm and sanitary sewers. A Cameron Corson, boro. engr.

Sharpsville, Pa.—Boro. reported considering construction of a joint sewage disposal plant for Sharon, Farrell and Sharpsville.

West Middlesex, Pa.—Election will be held Mar. 7 to vote on issuing $10,000 bonds for constructing sewer system.

Ocean City, Md.—Question of constructing sewer system being considered; probable cost $30,000.

Towson, Md.—Co. Comrs. considering construction of sewage disposal plant.

Altavista, Va.—Street, water and light bonds for $16,000 will be sold Feb. 28 by W. S. Corbin, town clk.

Salem, Va.—Town will lay new water mains; cost about $10,000. R. H. Bruce, resident engr.

Hinton, W. Va.—Reported city considers extending sewer system. J. B. Lavender, city engr.

Cairo, Ga.—City will call election Mar. 20 on question of issuing $28,000 bonds to be used for construction of sewers.

Brooksville, Fla.—Reported waterworks bonds for $20,000 will be sold Mar. 1. W. M. Russell, co. clk.

Miami, Fla.—City will call an election Mar. 20 on question of issuing $150,000 bonds to be used for constructing sewer systems and sewage disposal plant.

New Smyrna, Fla.—City will vote $10,000 bonds to be used for completing waterworks.

Bossier City, La.—City will call an election April 20 to vote on question of issuing $30,000 bonds, to be used for waterworks.

Monroe, La.—See "Excavation, Drainage and Dredging."

Biloxi, Miss.—City considering purchase of new pump for pumping station, capacity 1000 gal. per minute.

Pass Christian, Miss.—City will issue $40,000 bonds to be used for construction of waterworks.

Owensboro, Ky.—Reported sewer improvements being considered this year. E. B. Shifley, city engr.

Bluffton, O.—Village will call election Mar. 6 to vote on question of issuing $35,000 bonds to be used for improvements to water and light plants.

Dishler, O.—Bonds for $33,000 for constructing municipal waterworks will be sold Mar. 13 by R. W. Hoskinson, clk.

Toledo, O.—Geo. W. Fuller, 170 Broadway, New York, is reported to be examining land for proposed changes at filtration plant and diverting sewage disposal from Ten Mile and Swan creeks. He will also look over plans for new system of sewage disposal nearly completed by Watson Harmon, asst. city engr.

West Jefferson, O.—Village has approved $20,000 bond issue to be used for construction of waterworks.

Valparaiso, Ind.—Reported city considering construction of sewer system for west end; cost about $28,000.

Detroit, Mich.—Theodore A. Leisen, supt. water comrs., estimates cost of 31 miles of 48-in. high-pressure water main to be installed this year in the new annexed city district at $1,500,000.

Casey, Ill.—Plans being prepared for waterworks and pumping station to include 5½ miles of 8 to 10-in. c. i. pipe, steam power, pumps, etc.; cost about $60,000. Miller & Holbrook, engrs., Milliken Bldg., Decatur.

Mendota, Ill.—Plans being prepared for sewer system and septic tank to include 5½ miles of tile; cost about $30,000. Wm. Weidner, city clk.

Springfield, Ill.—Wade Seeley, city engr., completed plans for extending town branch sewer; cost about $175,000.

Iowa Falls, Ia.—City planning improvements for waterworks, including pumps, motors, wells, reservoir, etc. E. H. Marriage, city mgr.

Story City, Ia.—Plans being prepared for sewer system and disposal plant. J. Q. Williams, engr., City Hall, Ames, Ia. A. H. Williams, city clk.

Minneapolis, Minn.—City Council has engaged W. N. Jones, 1010 Bayless Ave., St. Paul, as consulting engr. for new filtration plant; cost about $1,200,000.

Minneapolis, Minn.—Finance Comn. has asked City Council to approve issue of $300,000 bonds for trunk line sewers.

St. Paul, Minn.—City Council considering construction of sewers in following streets: Palace, Bellows, Hyacinth, Charlton, Winona and Fillmore, Laurel Ave., etc.

Liberal, Kan.—City considering issue of $19,000 bonds for waterworks improvements.

Fairfax, S. D.—Election will be held Feb. 28 on question of issuing $40,000 bonds for construction of municipal waterworks.

Springfield, Mo.—City will call election in April on question of issuing $45,000 bonds to be used for installation of outlet and septic tank.

Marvell, Ark.—Town has engaged U. S. Sanitary Septic Tank Co. (W. J. Kearney, gen. mgr.) as engineers for water and sewer system; cost about $32,000.

Goliad, Tex.—Reported improvements to water and light plant being considered. E. F. Glaze interested.

Lockport, Tex.—Bonds for $35,000 sold by city to be used for improvements and extension of sewer system.

Weimar, Tex.—Citizens have voted $15,000 bonds for improving waterworks.

Weimar, Tex.—Bonds for $15,000 have been voted by property owners for improvement of waterworks.

Wichita Falls, Tex.—Plans completed for water pipe line from Lake Wichita to the oil fields in Archer Co.; address Co. Judge.

Billings, Okla.—Plans being prepared for sewer system and extensions to waterworks. Election will soon be held to issue bonds.

Checotah, Okla.—City approved $125,000 bond issue to be used for waterworks.

Okemah, Okla.—Election will soon be held on question of issuing $50,000 bonds to be used for construction of sanitary sewer system.

Pendleton, Ore.—Contract will soon be let for constructing septic tanks to dispose of city's sewage; cost about $10,000.

Brawley, Cal.—Bonds for $17,000 for concrete basin and sludge sewer will be sold Mar. 19 by city. G. R. Wade, city engr.

Los Angeles, Cal.—City reported to be planning to spend $275,000 on temporary work of sewage disposal at Hyperion.

Sacramento, Cal.—City Comn. considering an underground water system for domestic supply.

Nampa, Idaho.—City Engr. Ogden Dutcher has completed plans for the installation of a submain sewer system to serve the western side of city; cost about $25,000.

Hull, Que.—J. P. La Forest, city engr., preparing plans for mechanical filtration plant to cost $170,000. Contracts will be let about May 1.

Tecumseh, Ont.—Contract will soon be let, by R. W. Code, Bd. of Trade Bldg., Windsor, for 9,600 ft. 3-in. and 7,000 ft. 6-in. cast-iron water mains and fittings.

BIDS DESIRED

Atlantic City, N. J.—Until Mar. 8, by Bd. Co. Comrs. (J. B. Thomson, dir. parks and public property) for furnishing 61 tons c. i. pipe, 8 tons c. i. fittings; advertised in this issue.

Hawthorne, N. J.—Until Mar. 2 by Bd. Comrs. (John A. Shea, clk.) for construction and equipment of pumping station, small reservoir and pipe connections; plans may be obtained from J. W. De Yoe, boro. atty., 126 Market St., Paterson.

Island Heights, N. J.—Until Mar. 16 by Boro. Council (George S. McKaig, clk.) for constructing sewer extension and disposal plant. Louis A. Croxton, Mt. Ephraim, N. J., boro. engr.

Ogdensburg, N. J.—Until Mar. 15, by L. A. Sweeney, boro. atty., for constructing waterworks and 300,000-gal. capacity reservoir, Wm. N. Harris, boro. clk.; Jas. B. Rider, 29 Bway, New York, engr.; advertised in this issue.

Clifton Heights, Pa.—Until Mar. 1 by Boro. (Ernest Geiger, chmn., sewer committee) for constructing terra cotta pipe sewers. A. F. Damon, Jr., Post Office Bldg., Darby, Pa., engr.

Sumrall, Miss.—Reported desired until Feb. 27 by J. I. Brueck, city clk., for constructing water system; work includes pumps, steel tower, pipe, drains, etc. Xavier A. Kramer, engr., Magnolia.

Akron, O.—Until Mar. 5 (new date) by Dir. Pub. Serv., for erecting 2 water tube boilers, 300 hp. each, boilers to be installed in existing Cuyahoga River Pumping Station near Kent. G. Gale Difan, engr.

Leetonia, O.—Until Mar. 19, by J. S. McCue, village clk., for constructing sewage disposal plant and intercepting sewers; advertised in this issue.

Eldon, Ia.—Until Mar. 1, by City Council (H. E. Ritz, city clk.), for constructing sewer system consisting of pipe ranging from 10 to 18 in., together with manholes, catch basins, etc., advertised in this issue.

Knoxville, Ia.—Until Feb. 27 by Paul M. Black, city clk., for constructing 31,870 ft. of from 6 to 12-in. sewers; also for sewage disposal plant. M. G. Hall, engr., Centerville.

West Burlington, Ia.—Reported desired until Mar. 5, by W. J. Giesel, man. clk., for constructing storm water sewer and waterworks improvements; cost about $70,000. Stevens & Stiles, engrs., 708 Ridge Arcade, Kansas City, Mo.

Gering, Neb.—Reported desired until Feb. 27 by S. L. Irvine, city clk., for constructing lateral sewer system; cost about $23,280; certified check for $500 to accompany bid.

Omaha, Neb.—Reported desired until Feb. 28 (extension of time), by Metropolitan Water Dist. (R. H. Howell, gen. mgr.) for constructing 30,000,000-gal. high service pumping unit at Florence Station.

Grand Forks City, N. D.—Until Mar. 15 by W. H. Alexander, city aud., for metering of effluent, improving and repairing existing waterworks, filtration plant.

Mitchell, S. D.—Until about Apr. 1, by city for constructing 4½ mi. sewers and sewage treatment plant; Dakota Eng. Co.; Mitchell, engrs.

Wessington Springs, S. D.—Until about Apr. 1, for constructing 5½ mi. sewers and sewage treatment plant; Dakota Eng. Co., Mitchell, engrs.

PRICES AND LETTINGS

★*Indicates award of contract.*

Brooklyn, N. Y.—Following are 4 lowest bids received at office of boro. pres. for constructing sewers in portions of Ocean Ave.—(a) section 1, and (b) section 2: Concrete Material Co. (J. J. Creem, pres., 688A Greene Ave., Brooklyn), (a) $287,464 (lowest on 1st section), (b) $320,150; Newman & Carey Subway Contr. Co., 1228 Nostrand Ave., Brooklyn (a) $328,421, (b) $255,101 (lowest on sect. 2); Jaret Chambers & Co., 30 E. 42d St., (a) $376,393; Ward & Tully, Inc., 10th Ave., Brooklyn, (a) $392,261; Jas. O'Leary, 411 E. 42d St., New York, (b) $292,507; Jos. J. B. La Marsh, Inc., 1771 Pacific St., Brooklyn, (b) $332,466. Engr's estimate on (a) $369,013, (b) $336,990. Edwin J. Fort, ch. engr., bureau sewers.

Philadelphia, Pa.—Following bids opened by Bd. Pub. Wks., Feb. 16, on c. i. water pipe, per ton, U. S. C. I. Pipe Co., 71 B'way., New York, and Donaldson Iron Co., 1, B'way., New York, $50; R. D. Wood Co., 400 Chestnut St., Philadelphia, $59.44, and on pump impeller castings, 17½ cents per lb.; on mechanical stokers, Coxe Traveling Grate Co., Hazleton, $26,400; Leigh Stoker Co., Fullerton, $35,000.

★**Reading, Pa.**—Contract awarded for water meters covering 1917 requirements to Badger Meter Mfg. Co., Milwaukee, Wis.

★**Savannah, Ga.**—Contract awarded for constructing storm water sewer to Carolina Constr. Co., Union National Bank Bldg., Columbia, S. C., at $44,459.

★**Alliance, O.**—Contract awarded by city (bids opened Feb. 5) for improving present sewage disposal plant to Homberger & Wager, Sandusky, at $39,000.

★**Columbus, O.**—Contracts awarded (bids opened Feb. 6) by city, for constructing 3rd Ave. relief sewers as follows: Ames Bros., Sect. 4 $21,020, Sect. 6 $8,623; D. E. Sullivan & Son, Interurban Terminal Bldg., Sect. 5 $33,701. Bidders both of Columbus. W. J. Weaver, asst. engr. in charge of sewers.

La Fayette, Ind.—Following are 3 lowest bids opened Feb. 14 by city for constructing pipe sewers, laterals of 6th Ward Sewerage System: Foley Constr. Co., 127 N. Dearborn St., Chicago, Ill., $46,675; N. B. Moore & Son, W. Lafayette Ind., $48,902; Moreno-Burkham Constr. Co., Syndgate Terminal Bldg., St. Louis, Mo., $51,383. H. B. Overesch, city engr.

Flint, Mich.—Following are 4 lowest bids opened by city Feb. 6 for additions to water purification work; Pittsburgh Filter Corp., Farmers Bank Bldg., Pittsburgh, Pa., $287,080; Norwood Eng. Co., Florence, Mass., $297,390; N. Y. Continental Jewell Filtration Co., 15 Broadway, New York, $321,760; Benjamin Douglas Co., Detroit, Mich., $345,730. D. E. Neccombe, city clk.

Springfield, Ill.—Lowest bids opened Feb. 5 by city for 1250 tons c. i. pipe for constructing water mains to R. D. Wood Co., 400 Chestnut St., Philadelphia, Pa., at $39.15 per ton fittings for 24-in. pipe, 4¼ cts.; 36-in. pipe, 4¾ cts. per lb.; automatic stokers for pumping station to Laclede-Christy Clay Products Co., St. Louis, Mo., at $6,230 f. o. b. Springfield.

★**Milwaukee, Wis.**—Contract awarded for extending sewer system to O. H. Bossert Co., 848 Jackson St., Milwaukee, at $28,305.

Dows, Ia.—Contracts awarded by city (bids opened Jan. 23) for constructing (a) sewers and (b) disposal plant as follows: Sect. (a) to Arthur A. Dobson, Lincoln, Neb., at $15,655; Sect. (b) to R. C. De La Hunt, Cedar Rapids, at $3,980. M. Tschirgi & Sons, engrs., Cedar Rapids.

★**St. Paul, Minn.**—Contract awarded for water meters covering 1917 requirements to Badger Meter Mfg. Co., Milwaukee, Wis.

Winfield, Kan.—Contract awarded by city (bids opened Feb. 5) for 1,750,000-gal. reinforced reservoir to Bass & Frankenfeld, Winfield; contract price for reservoir construction, $16,700; including wrecking of old masonry wall, $19,800. W. C. Hall, clk. water, light and power plant; engineer's estimate was $18,197.75 and $4,000.

★**Portland, Ore.**—Contract awarded by city for Tanner Creek sewer to Wm. Lind and J. F. Shea of Portland, at $302,800. Philip H. Dater, city engr.

Los Angeles, Cal.—Following were lowest bids opened Feb. 13 by Bd. Pub. Wks. for constructing sewers: B. Z. Wucetich, 1134 E. 10th St., Long Beach, 588 10th St., $13,-850; Edwards Ave. sewer, Louis Volentario, 717 South Hartford Ave., Los Angeles, $42,-500; Seward St. sewer, John Balch, Los Angeles, $43,700; Mike Chutuk, 532 S. Matthew St., Los Angeles, $45,418; Sanborn Ave. and Sunset Blvd. sewers, Mike Chutuk, $23,818; next lowest, John Balch, Los Angeles, $25,548; Malagenovich & Gillespie, 3912 Wisconsin St., Los Angeles, $25,750.

★**Halifax, N. S.**—Contract awarded for northwest arm intercepting sewer to Cook Constr. Co., and Wheaton Bros., 335 Quinpool St., at $68,000.

REINFORCED CONCRETE

PROPOSED WORK

Altoona, Pa.—H. H. Russell, division engr., Penn. RR. Co. (Alex. C. Shand, ch. engr., Broad St. Station, Philadelphia), reports plans are being prepared for steel and reinforced concrete culvert, 50 ft. wide, with 30-ft. driveway, to be constructed under the branch railroad tracks at 9th Ave. and 24th St.; cost about $10,000.

Winston-Salem, N. C.—R. J. Reynolds Tobacco Co. will erect 5-story and basement, 100 x 200-ft. reinforced concrete factory building between 2d and 3d Sts., on the Southern RR. Building will cost about $200,000. Contract will be let in a few weeks.

Greenville, S. C.—Reported Williams Co. (J. Hudson Williams, mgr.) will erect reinforced concrete plant to cost $50,000 or $60,000 for manufacturing food made from the sweet potato.

Orangeburg, S. C.—Plans being prepared by Wilson & Sompayrac, Columbia, for erecting $200,000 reinforced concrete packing house.

Lake Charles, La.—Lake Shore Drive plans completed for 3 concrete bridges; cost about $60,000. Address Pres. Police Jury.

Elkhart, Ind.—City has petitioned Co. Comrs. to construct concrete bridge over St. Joseph River at Elkhart Ave.

Des Moines, Ia.—Plans being prepared by D. E. Thomas, city engr., for proposed concrete bridge with one span, 52 ft. wide, with 150 lb. per sq. ft. capacity, on pile foundations, at 39th and Forrest Sts.

Leavenworth, Kan.—Harry Perkins, city engr., reported to have completed plans for concrete, 40-ft. with 18-ft. roadway, bridge on Marion St.

Sedalia, Mo.—Reported Swift & Co. U. S. Yards, Chicago, will erect 4-story reinforced concrete storage plant to cost $150,000 at Main St. and Grand Ave.

Dallas, Tex.—Morten Milling Co. will construct 4 concrete tanks, 150,000 bushels capacity.

Wichita Falls, Tex.—Wichita Falls Mills & Elevator Co. of Wichita Falls will construct 6 concrete tanks of 433,000 to 650,-000 bushels capacity; cost about $100,000.

Waynoka, Okla.—Waynoka Township voted $50,000 bonds to be used for construction of concrete bridge across the Cimarron River near here.

Sprague, Wash.—Contracts will be awarded in early spring by county (G. C. Harvey, co. engr., Davenport) to construct permanent highway No. 3 running 12.56 miles north from here, including 2 concrete bridges, about 50 culverts and a trestle bridge over Crabb Creek; estimated cost $40,000.

Astoria, Ore.—Port of Astoria has authorized R. R. Bartlett, port engr., to prepare plans for erecting 4 concrete grain storage elevators with capacity of 500,000 bu. of grain.

Heppner, Ore.—Reported by G. Lansing Hurd, of Bureau of Organization and Markets of Oregon Agricultural College, Corvallis, that farmers in eleven different communities plan erecting concrete elevators of 100,000 bu. capacity this season.

Lordsburg, Cal.—Lordsburg College plans erecting concrete building for girl's dormitory to cost about $60,000.

Winnipeg, Man.—Contract will soon be let by Bd. of Control for constructing a 150-ft. concrete stack at the Elmwood incinerator. W. P. Brereton, city engr., is preparing plans.

BIDS DESIRED

Trenton, N. J.—Until Mar. 7 by City Comn. (Leon D. Hirsch, city clk.) for constructing 1100 ft. of timber and concrete bulkhead on Delaware River near Ferry St.; advertised in this issue.

Delaware, O.—Until Mar. 6 by W. V. Aldrich, co. aud., for constructing Galena Bridge No. 3, steel superstructure and concrete substructure over Little Walnut Creek; Hartford Bridge to be constructed of concrete over Big Walnut Creek; certified check for $500 to accompany each bid.

Honolulu, Hawaii.—Reported desired until Mar. 2, by constructing quartermaster, Ft. Shafter, for erecting 5 one-story concrete and frame warehouses.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Philadelphia, Pa.**—Contract awarded John N. Gill & Co., 1215 Filbert St., for erecting 3-story 62 x 115 ft. brick and concrete addition to plant of Electric Service Supplies Co., 17th and Cambria Sts.

★**Kankakee, Ill.**—Contract awarded (bids opened Feb. 15) for construction of reinforced concrete bridge across Kankakee River; cost about $43,000, to M. & P. Contr. Co., Hatfield, Ind.

Kansas City, Kan.—Only bid opened Jan. 31 for constructing about 4075 lin. ft. new reinforced concrete retaining walls along harbor line for left bank of Kansas River was that of Munn Riese Constr. Co., Kansas City, Kan., at $80,490.

★**La Crosse, Kan.**—Contract awarded (bids opened Feb. 5) for construction of 20 concrete bridges to Edwards & Turner, La Crosse, at $8 per cu. yd. in place; Lloyd V. Mellick, co. engr.

★**Topeka, Kan.**—Contract awarded for single span-spandrel arches, reinforced concrete bridge, to Allen & Fulton, at $17,368.

Twin Falls, Idaho.—See "Excavation, Drainage and Dredging."

★**Fredericton, N. B.**—Contract awarded to New Brunswick-Powers & Brewer, 107 Prince William St., St. John, for 4 span stone and concrete bridge for Pub. Wks. Dept., at $70,000.

New York, N. Y.—Following are totals and unit figures of four lowest bids opened Feb. 15 by Park Bd., Dept. of Parks, Municipal Bldg., for constructing concrete bulkhead along easterly boundary of public driveway (165th St., 170th St. and 184th St.): (a) Phoenix Constr. Co., 41 Park Row, $95,899; (b) The Snare & Triest Co., 283 B'way, $96,475; (c) I. J. Stander Co., Inc., 118 E. 28th St., $98,746; (d) P. J. Duffy & Co., Inc., 132d St. & St. Ann's Ave., Bronx, $102,474.

	(a)	(b)	(c)	(d)
12,000 cu. yd. crib excavation	$1.20	$1.20	$1.00	$1.80
6,500 cu. yd. earth excavation	1.20	1.00	1.00	1.00
2,150 cu. yd. concrete, Class "A"	8.88	8.00	8.00	9.00
2,800 cu. yd. concrete, Class "B"	11.35	10.80	12.75	10.00
400 cu. yd. concrete, Class "C"	7.10	14.50	15.00	10.00
315 cu. yd. concrete, Class "D"	6.50	7.40	7.00	8.00
550 cu. yd. concrete, Class "E"	6.00	6.90	6.00	8.00
1,040 lin. ft. granite coping	5.20	5.50	5.00	4.00
2,300 cu. yd. rubble wall backfill	0.50	1.00	1.00	1.00
2,620 cu. yd. earth and stone backfill	0.30	0.50	0.50	0.01
550 cu. yd. steam cinders	0.36	0.60	0.50	0.60
1,100 lin. ft. curbstone redress and reset	0.60	0.80	0.75	0.40
21,800 sq. ft. asphalt mastic pavement	0.15	0.11	0.15	0.18
1,255 sq. yd. asphalt block gutter	2.40	3.00	3.00	2.25
900 sq. yd. roadway pavement	0.75	1.00	0.60	3.00
4 gutter outlets	2.10	2.50	2.00	1.00
3,900 sq. ft. sod	0.09	0.04	0.04	0.10

Ann Arbor, Mich.—Following are 4 lowest bids opened by city Feb. 14 for constructing bridge over Huron River at Broadway—(1) with roadway paving, (2) without: (a) J. P. Rusche, Grand Rapids, (1) $51,661, (2) $50,376; (b) A. H. Prange, Grand Rapids, (1) $53,622, (2) $52,093; (c) Benj. Douglas Co., Ann Arbor, (1) $60,734, (2) $59,204; (d) Hackedorn Contr. Co., Indianapolis, Ind., (1) $60,957, (2) $59,856. Manley Osgood, city engr.

	(a)	(b)	(c)	(d)
1,312 cu. yd. excav. below elev. 760	$2.88	$5.00	$6.50	$5.75
3,842 cu. yd. excav. above elev. 760	0.60	2.50	1.00	1.67
1,717 cu. yd. concrete in abut. and piers	7.80	7.50	11.40	14.00
67 cu. yd. concrete in wing walls	14.75	9.50	18.00	15.00
1,035 cu. yd. concrete in arches	24.70	16.50	19.15	15.00
92 cu. yd. concrete in spandrel walls	18.85	20.00	25.00	15.00
18 cu. yd. concrete in curbing	18.00	10.00	12.00	15.00
5,615 sq. ft. sidewalk	0.12	0.12	0.15	0.12
477 lin. ft. railing	2.40	2.50	3.00	3.00
612 sq. yd. brick pavement	2.10	2.50	2.50	1.80
Lighting system	1,050.00	1,500.00	1,045.00	923.06
Roadway drainage	120.00	150.00	250.00	50.00
Removing old bridge:				
Added	....	....	50.00	600.00
Deducted	700.00	200.00	....	....

STRUCTURAL STEEL WORK

PROPOSED WORK

Connecticut.—Bills now before State Legislature include construction of railroad bridge over the Thames River in New London and one over Housatonic River between Stratford and Milford. Chas. J. Bennett, highway comr., Hartford.

Brooklyn, N. Y.—Estimated cost for proposed remodeling of Brooklyn approach to Brooklyn Bridge, placed at $650,000 by F. J. H. Kracke, comr., Dept. Plant & Struct., Municipal Bldg., New York City; work includes clearing 155,000 sq. ft. at end of bridge, removal of present headhouse and clearing of 3 blocks bounded by High, Tillary, Liberty and Washington Sts., of elevated structures.

Rochester, N. Y.—See "Foundations, Piers and Dams."

Yonkers, N. Y.—New York Central RR. (G. W. Kittredge, ch. engr., Grand Central Terminal, New York City) has submitted 4 different sets of plans, including subway and viaduct plans, to City Council (Daniel Fulton, city engr.) for eliminating grade crossing on Yonkers Ave. at Dunwoodie station of Putnam Division; estimated costs range from $155,000 to $285,000.

Jersey City, N. J.—Thos. J. Wasser, co. engr., preparing plans for viaduct to eliminate grade crossings of Erie RR. and Lackawanna RR. on Poorhouse Rd. reaching from Co. road junction to Laurel Hill. Bd. of Freeholders negotiating with roads for improvement.

Newark, N. J.—See "Waterworks and Sewerage System."

Pittsburgh, Pa.—See "Roads and Paving."

Edgemoor, Del.—Pennsylvania RR. Co. (Alex. C. Shand, ch. engr., Philadelphia, Pa.) reported considering construction of a bridge, costing about $90,000, to carry its tracks over county road leading from Philadelphia Pike to Edgemoor. It will have two approaches, one 450 ft. in length and the other 500 ft.

Washington, D. C.—House passed bill authorizing the Washington & Newport News Short Line RR. to construct bridge over Potomac River near Indian Head.

Knoxville, Tenn.—Southern Ry. Co. (A. B. Ilsley, engr., Charlotte, N. C.) proposes to erect a viaduct at Gay St. to cost $89,-456, and one at State St. to cost $139,408, providing city will contribute $85,000 and pay property damages that may occur.

Hazard, Ky.—Bridge will be constructed across Kentucky River here by Fiscal Court; cost about $100,000. Election will probably be held to raise cost of structure. Address Clerk, Fiscal Court, Whitesburg, Ky.

Chicago, Ill.—Alderman Ellis Geiger presented to City Council outline of plan for a new driveway connecting north and south sides by means of a bridge eastward from present mouth of the Chicago River; probable cost about $1,500,000.

Rison, Ark.—Co. Comrs. considering construction of steel bridge across Saline River near here. W. E. Galloway, co. judge. Virginia Bridge Co., Memphis, Tenn., preparing plans.

Wichita Falls, Tex.—Contract will be let about April 1 for construction of 3 bridges over Wichita River, one at Wichita Falls, one at Iowa Park, and the other at Electra. They will be Thru Pratt truss bridges on concrete foundations; total cost about $60,000. M. M. Cooke, engr., 505 Kemp & Kell Bldg.

Duvall, Wash.—Preliminary plans being prepared by S. J. Humes, co. engr., Seattle, to construct $25,000 bridge here; type of structure undecided.

Seattle, Wash.—An overhead sidewalk along west margin of Railroad Ave., extending from Marion St. viaduct to viaduct proposed at Yesler Way, recommended to the City Council by A. A. Paysse, port warden; referred to Streets & Sewers Com. for consideration in connection with erecting an overhead bridge at Yesler Way.

Vancouver, Wash.—Cowlitz and Clarke Counties (Kalama and Vancouver respective co. seats) intend constructing bridge of cable suspension type, 300 ft. long, over north fork of Lewis River at Cresap's Ferry, 30 miles above Woodland; estimated cost $14,000. Mae Haack, co. aud., B. L. Dorman, co. engr., Clarke Co., Vancouver.

La Grande, Ore.—Southern Pacific Ry. (W. Hood, ch. engr., San Francisco, Cal.) intend constructing elevated viaduct and grade crossing over 2d St. instead of concrete subway with concrete retaining walls, as first proposed owing to seepage; estimated cost $330,000.

Clarks Fork, Idaho.—Legislature in session at Boise, appropriated $100,000 for construction of steel bridge near here 1300 ft. long; including approaches; structure will have 4 main spans, 200 ft. long, each, and 2 pony spans 70 ft. long.

Bridgeburg, Ont.—Canadian Pacific RR. Co. (M. H. MacLoad, ch. engr., Winnipeg) and Michigan Central Ry. Co. reported considering construction of bridge across Niagara between Buffalo and Bridgeburg at the head of Strawberry Island.

BIDS DESIRED

Freehold, N. J.—Until Mar. 7, separate bids by Bd. Freeholders (C. E. Close, clk.), for constructing trestle bridge over Creek at Belford and improvements to Phalanx Bridge in Middletown Twn., and Goose Neck Bridge at Eatontown.

Asheville, N. C.—Until Mar. 3 by State Highway Comn., Raleigh, for constructing 3 bridges over French Broad River. Wm. L. Craven, cons. engr., Concord, N. C.

Tampa, Fla.—Reported desired until Mar. 13 by Hillsboro Co. Comrs. (Jas. G. Yeats, chmn.) for constructing 2 bridges over Alafia River on Bayshore Road, to have steel drawbridges with trestle approaches. C. R. Knight, engr.

Anderson, Ind.—Until Mar. 10, by Co. Comrs., for constructing 2 bridges, one over Fall Creek and other over Lick Creek; the Lick bridge is to have reinforced concrete arch in northwest quarter of sec. 5, twp. 17, range 7, east in Fall Creek Twp., bridge over Fall Creek is to be of steel in northeast quarter, sec. 14, twp. 18 north, range 8 east in Adams Twp.

Flint, Mich.—Reported desired until Mar. 2, by City Clk., for Leith St., grade separation; cost about $50,000. Ezra C. Shoecraft, city engr.

East Dubuque, Ill.—Until Mar. 13 (new date), by John Ellwanger, secy., Dubuque Bridge Co., for improving east approach of Dubuque Bridge; work includes about 1550 sq. yd. brick paving, 783 lin. ft., reinforced retaining curb; certified check for $1,000 to accompany bid; plans may be obtained from Tschirgi & Sons, engr., 712 American Trust Bldg., Cedar Rapids, Ia.

Minneapolis, Minn.—Reported desired until Mar. 5, by L. P. Erickson, co. aud., for constructing Lyndale bridge over Minnesota River to connect Hennepin and Dakota Cos.; cost about $200,000. Hunt & Le Wald, engrs., Tribune Annex, Minneapolis.

Palisade, Minn.—Reported desired until Feb. 27 by R. C. Sanford, clk. bridge committee, for constructing bridge across Mississippi River, 83 ft. long, two approaches, each about 75 ft. long on concrete and pile foundation, 27 ft. from floor to bottom of foundation. Toltz Eng. Co., Pioneer Bldg., St. Paul, engrs.

Bloomington, Neb.—Reported desired until Mar. 1 by O. Muckel, co. clk., for constructing and repairing bridges during 1917.

Rushville, Neb.—Reported desired until Mar. 1 by Maud E. Gillespie, co. clk., for constructing bridges during 1917; certified check for $500 to accompany bid.

Langdon, N. D.—Reported desired until Feb. 27 by O. J. Eide, co. aud., for furnishing metal culverts for county during 1917.

Clifton, Ariz.—Until March 15 for constructing 2 steel bridges, one to have two 160-ft. spans, wood block floors, and other one 210-ft. span and same kind of flooring. A. J. Kerr, town engr.

Windsor, Ont.—Reported desired until Feb. 28 by J. J. Newman, engr., Davis Block, for constructing superstructure of one 70-ft., clear span bridge, one 80-ft., two 100-ft., all over Big Creek Drain in Tilbury Township, N. and W. Essex Co.

PRICES AND LETTINGS

★*Indicates award of contract.*

Salem, N. J.—Following bids opened by Bd. Freeholders for construction of 2 new spans of Penns Neck Bridge: Bridgeport Constr. Co., $23,907 and $3,000 if county allows contractor to keep old bridge; F. H. Leonard Co., Wayne, $20,500 and $20,000 to keep old bridge. For new draw span, Penn Bridge Co., Beaver Falls, $48,870; Phoenix Bridge Co., Phoenixville, $52,160.

Philadelphia, Pa.—Following are lowest bids opened by Dept. Pub. Wks., Feb. 15 for construction of bridge on 5th St.: John McMeany & Co., Harrison Blvd., $23,526; M. & J. B. McHugh, 892 W. Markoe St., $24,424; and for bridges on Cobb's Creek Parkway—Cantwell Constr. Co., 21st and Sedgley Sts., $47,500. Bidders all of Philadelphia.

★**Lusk, Wyo.**—Contract awarded (bids opened Feb. 6) for construction of steel bridge across Running Water Creek to Monarch Eng. Co., Falls City, Neb. E. G. Jones, chmn. bd. co. comrs.

★**Sheridan, Wyo.**—Contract awarded by county (bids opened Feb. 6) to Monarch Engr. Co., 312 17th St., Denver, Col., at $19,188, for constructing 4 clear span steel truss bridges. E. C. Groillim, co. engr.

★**Rio Grande Project, N. M.**—Contract awarded Wisconsin Bridge & Iron Co., Milwaukee, Wis., for material for steel bridge for Carfield crossing of Rio Grande Irrigation Project at $16,700; bridge will have span 800 ft. from end to end.

ROADS AND PAVING

PROPOSED WORK

Boston, Mass.—Estimated cost of contemplated improvements to radical highways, placed at $500,000, as follows: Chelsea St., $150,000; Faneuil and Morton Sts., $125,000 each; North Beacon St., $100,000.

Bridgeport, Conn.—Special City Advisory Com. has recommended issuance of $6,400,-000 bonds for proposed improvements, of which $1,250,000 is for street extensions. $1,000,000 for paving work, $2,000,000 for sewer construction, $1,000,000 for new schools, $200,000 for isolation hospital, $125,-000 for public clinic, $100,000 for police and fire dept. building, $750,000 for park extensions.

Greenwich, Conn.—Greenwich Highway Comn. intends paving 50,000 sq. yd. with reinforced concrete during this year. S. E. Minor, city engr.

Hartford, Conn.—Contracts will be awarded in April by city to pave with sheet asphalt on concrete foundation Capitol, Van Dyke and 3 other avenues and 2 streets. R. N. Clark, city engr.

Albany, N. Y.—State Legislature is contemplating $8,000,000 appropriation to construct important roads and to close up gaps in State highway system not provided for by present highway fund. Edw. Duffy, State highway comr., 55 Lancaster St.

Mayville, N. Y.—Contracts will be awarded early in spring by county to pave with slag road from Smith Mills to Hanover Center, 2.7 miles, in town of Hanover, and road from Sherman Village to Mina town line, 2.21 miles, toward Findlay Lake. Wm. J. Knauer, co. highway supt.

New York, N. Y.—Bd. Estimate, Municipal Bldg., has apportioned among Boros. $2,000,000 paving appropriation authorized Dec. 28 as follows: Manhattan, $1,000,000; Brooklyn, $690,000; Bronx, $110,000; Richmond and Queens, $100,000 each.

Southampton, L. I., N. Y.—Estimated cost to pave Main St. and Jobs Lane placed at $50,000. Address Town Clk.

Wyandanch, N. Y.—Citizens of town of Babylon contemplate voting bonds at April election to construct proposed road in northern section of town, running through this place from Deer Park to Farmingdale, estimated to cost between $40,000 and $50,000.

Belvidere, N. J.—Bd. Freeholders appropriated $30,000 for highway work, this year.

Elizabeth, N. J.—Estimated cost of proposed grading work on both sides of Baltic St. bridge, placed at $25,000. Address Secy., Bd. Wks.

Contracts will shortly be awarded by Bd. Wks. for improving Sheridan Ave.; estimated cost $13,000. John F. Kenah, city clk.

Farmingdale, N. J.—Bd. Freeholders (John M. Corlies, dir.)), Freehold, intend improving and widening Farmingdale-Colts Neck road for distance of 3 miles. C. E. Close, clk.

Jersey City, N. J.—County has made application to State Highway Comn., Trenton, for $120,000 fund for road improvements and if application is granted county will appropriate equal amount, making $240,000 for proposed road work. Thomas Wasser, co. engr.

Hackensack, N. J.—Estimated cost to improve Paterson Ave. placed by Ross McClave, co. engr., as follows: Grading street, 66 ft. wide, and using 4000 cu. yd. of earth and constructing reinforced concrete walls on both cut and fill, $84,315; grading as above, but using 1400 cu. yd. for fill and constructing reinforced concrete walls in cut only, $35,697 (cost of retaining walls in cut being about $19,000), making cut and fill, without retaining walls, $20,000; cost will be borne by county and boroughs through which roads pass; on 5 per cent basis to be paid by East Rutherford and Wallington, it means about $2,500 will be paid by each town for this improvement.

Newark, N. J.—Bd. Street and Water Comrs. (M. R. Sherrerd, ch. engr.) intend setting new curb and resetting old curb and paving portions of Renner, Chadwick and Lehigh Aves. and 6 other streets with asphalt (1½-in. surface, 1½-in. binder) on 6-in. concrete foundation, paving portion of Lyons Ave. with asphalt (2-in. surface, 1½-in. binder) on 6-in. concrete foundation, and Cortlandt Pl. with concrete.

See "Water and Sewers."

Plainfield, N. J.—City intends paving 12 streets with vitrified brick. John J. Carroll, city clk.

Allentown, Pa.—City Council intends paving with asphalt N. 19th St. for 1 mile from Liberty St. northward and has been petitioned by residents along street, who have donated land, to widen this street from 60 to 80 ft.

Bedford, Pa.—Surveys have been completed by Geo. W. Blackburn & Son, engrs., Court House, Bedford, for proposed road, 3.2 miles long, with grade not exceeding 4.5 per cent, from Rock Lick school in Napier Township, Bedford Co., to top of Allegheny Mountain; this road will be part of proposed highway from New Paris section of Bedford Co. to junction with similar road from Crum in Shade Township, Somerset Co. (Somerset, co. seat.).

Erie, Pa.—Estimated cost of proposed grading, curbing, draining and paving portions of Plum, 16th, 25th and Wayne Sts. placed at $29,830. City intends asking successful contractor, as work will be advertised in near future, to take bonds in payment for work. M. J. Henry, clk. city council.

Greensburg, Pa.—County Comrs. (Jas. R. Gallagher, clk. of courts) have received petitions to improve Hecla-Hurst road, 1.475 miles long, in Mt. Pleasant Township, Latrobe-Kingston road, 1.75 miles long, in Derry Township, and Station Spur Line road, .322 mile long, in Unity Township.

Estimated cost to improve 9 proposed roads in county placed at $535,336 by W. G. Muse, co. road engr., of which county will pay $362,909 and townships remainder. Roads are: County paying three-quarters and townships one-quarter, Harrison City-Export Road, 4.964 miles long, in Penn and Franklin Townships, $139,307; Oak Grove and Wilpin Road, 2.88 miles, in Ligonier Township, $63,520. County and townships each paying one-half, Ft. Robinson-Yukon Road, 3.23 miles, in Huntington Township, $74,199; Latrobe-Kingston Road, 1.753 miles, in Derry Township, $64,631; 7th St. extension, New Kingston, 1.50 miles, in Lower Burrell Township, $39,493; Webster-Uniontown Pike, 1.79 miles, in Rostraver Township, $42,833; Main St., Ligonier Boro., 0.50 mile, in Ligonier Township, $25,331; Latrobe-Beatty Spur line, 0.322 mile, in Unity Township, $9,794. County will pay full cost, $77,229, to construct Scottdale-Greensburg Road, 3.31 miles long, but East Huntington Township is to construct another road, same length, and costing $77,229, to connect with this road. W. D. Reamer, member, co. comrs.

Johnstown, Pa.—County Comrs. have appropriated $130,000 as county's share of 1917 road work, costs of which will also be borne by State and Twps. affected and have presented to Co. judges preliminary plans to reconstruct with brick, 16 ft., 18 ft. or 20 ft. wide, following roads: Completion of Cresson pike to Munster (contracts to be awarded in spring); Ebensburg to Carrolltown, 10 miles; Cresson to South Fork, 9 miles; from Munday's Corner to brick highway in Conemaugh, 7 miles; Gallitzin to Cresson, 3 miles; Lower Ferndale and Johnstown and Westmont roads, 1 mile each; Lloydsville to Blair Co. line, 0.75 mile; Upper Ferndale from Johnstown city line to Somerset Co. line at Benscreek. M. B. Stephens and F. J. O'Connor, co. judges.

Philadelphia, Pa.—Special election will be held in city April 10 to ask voters to increase bonded indebtedness of city for proposed improvements, one of largest of which is Cobbs Creek Boule.; cost to acquire property being about $1,000,000. John M. Walton, city comptroller.

Pittsburgh, Pa.—Estimated cost of proposed Monongahela boulevard from Forbes and Shingiss Sts., this city, through McKeesport to Schenley Park, including construction of $300,000 viaduct over Panhandle RR. at 4th St., also branch over 22d St. bridge, placed at $900,000; expense will probably be borne by county and city. W. McClurg Doniey, co. road engr.

Contracts will soon be awarded by Dept. Pub. Wks. to grade, pave and curb and construct storm sewers in portions of Bway. and Wenzel Way; estimated cost, $50,000.

Scranton, Pa.—Estimate of Dept. Pub. Wks. (W. G. Robertson, dir.) to grade, pave with sheet asphalt on concrete base and curb portions of Cedar Ave., Brook St. and Costello Court placed at $30,434. Wm. A. Schunk, city engr.

Sunbury, Pa.—Estimated cost of proposed paving with vitrified brick on 6-in. concrete base, total length of 3300 ft., placed at $27,600, of which largest job is on Penn St., Lenker Ave. and Miller St., 1200 lin ft., $8,700. Geo. W. Keefer, boro. regulator.

Wayne, Pa.—Radnor Township has appropriated $25,000 for road and bridge work during 1917.

Waynesburg, Pa.—Frank B. Black, state highway engr., Harrisburg, estimates Greene Co. will receive $160,000 for road work during next 2 years from state, $110,000 of which will be used on road from here to Rice's Landing and $50,000 on route 325, extending northward from here to improved highways in Washington Co. Co. Comrs. (J. Sheridan Johnson, member) desirous of constructing 1 mile extension to road constructed to Rogersville.

Chestertown, Md.—Contracts will soon be awarded by State Roads Comn., Baltimore, Md., for following roads in Kent Co., of which state will pay 50 per cent, county 40 per cent and property owners 10 per cent of costs: McLane's Corner to Tolchester, 3¼ miles; Massey to Ireland's Corner, 3 miles; Still Pond Station to State road, 1½ miles; through Still Pond, ½ mile; down Betterton Hill, ½ mile; Crumpton Lane, 1 mile.

Easton, Md.—Cost of proposed road from here to Tuckahoe bridge for which Co. Comrs. have agreed to obtain estimate, will be borne 50 per cent by state, 40 per cent by county and 10 per cent by benefited citizens. Address Co. Clk.

Maryland.—State Roads Comn., Garrett Bldg., Baltimore, has designated 100 miles of roads to be improved with this state's share amounting to about $660,000, of Federal road funds of which approximately $240,000 is now available. Roads are: road from eastern limits of Frederick, including Washington turnpike as far as Monocacy river bridge, Buckeystown turnpike and road near Dickerson to connect with improved state road at Dawsonville, 21 miles; Bladensburg to Camp Parole (Old Stage road), 25 miles; Philadelphia Old Post road from Herring Run to Little Gunpowder Falls, 12.50 miles; Easton to Claiborne, 10 miles; road from improved road at Westminster through Littletown toward Gettysburg, 11.50 miles; turnpike from improved road at Boonsboro through to Sharpsburg, 7 miles; Grove to Bureau, 5 miles; Urbana turnpike from south end of Monocacy river bridge and running south toward Hyattstown, 6 miles; road from Corringansville via Ellerslie to Pennsylvania state line, 2.40 miles.

New Castle, Del.—Town Council has approved bill asking State Legislature to grant town authority to borrow $25,000 for street purposes.

Wilmington, Del.—Contracts will be awarded this spring by county (James Wilson, co. engr.) and State Highway Comn. to pave with macadam road, 2 miles long, in Christiana from Centerville to Ashland road; also completing of limestone road in Mill Creek from Newark road toward Hockessin.

Estimated cost to pave all streets in city that are still unpaved placed at $4,000,000 by E. M. Hoopes, Jr., city engr. City intends asking State Legislature for authority to bond city for this amount.

Altavista, Va.—See "Waterworks and Sewerage Systems."

Clintwood, Va.—No bids were received by county Jan. 26 for proposed construction of road between here and Freeling or for work on Main St.

Edinburgh, Va.—Subscriptions are being received to construct road, 7 miles long, from Liberty Furnace through here, in Shenandoah Co., Va., to Lost River, in Hardy Co., W. Va. Address Geo. E. Irvin, Edinburgh, Va.

Lynchburg, Va.—In order to grade and pave with bituminous macadam, 20-ft. wide, for 2 miles, link of unimproved automobile boulevard around city, placed at $24,222, of which residents on Link road have raised $2,725 and providing citizens of this place are successful in raising $3,330, Bd. Supervs. will improve link by issuing $18,166 bonds.

Wellsburg, W. Va.—Contracts will be awarded in March by County Court for paving with waterbound macadam 4½ miles on Hukills-Huff Run road; with brick, on concrete base, ¾ mile of river road in this city; with monolithic brick, concrete and asphaltic concrete, 1⅓ miles on Chestnut Heights. C. A. Eichleberger, co. road engr.

Elizabeth City, N. C.—Bd. Aldermen voted $120,000 bonds to pave over 15 miles of streets, some of which are Broad, Cypress, Pearl and West Burgess. Thomas J. Markham, city atty.

Fremont, N. C.—Nahunta and Great Swamp townships and Fremont voted $90,000 bonds for proposed road work in northern end of Wayne Co. Address Co. Clk., Goldsboro.

Hamlet, N. C.—Town sold $50,000 bonds for proposed street paving.

Lenoir, N. C.—Contracts will be awarded by city in March to pave with sheet asphalt and concrete and construct concrete curbs on various streets; estimated cost $150,000. E. W. Cole, city engr.

Marion, N. C.—Judiciary Com. of House, State Legislature, reported favorably bill authorizing construction of automobile road in North Cove Township, from here to Little Switzerland, connecting with crest of Blue Ridge Highway, and also up through North Cove over Linville mountain to Linville City; estimated cost $50,000.

Bd. Aldermen contemplate paving streets of town with concrete, macadam, bitulithic or other hard-surfacing material at estimated cost of $20,000.

Newton, N. C.—County will hold election May 2 to vote $250,000 for proposed improvement of county roads; if bond issue is carried, county will take over Lenoir-Blowing Rock turnpike (a toll road) or else construct another road from Lenoir to Blowing Rock.

Wadesboro, N. C.—Road bonds for $100,000 will be sold Mar. 7 by Bd. Co. Comrs. (J. E. Hart, chmn.).

Winston-Salem, N. C.—County Comrs. considering issuance of $300,000 long-term bonds for proposed construction of 200 miles of county roads. Address J. K. Norfleet, chmn., Forsyth Highway Comn.

Yadkinville, N. C.—State Legislature has authorized Yadkin Co. to issue $140,000 bonds for proposed construction of roads and bridges, which includes 8 miles of sand clay roads in Buck Shoals Twp.; 6-mile road from Yarkinville running southeast over South Deep creek, via Shacktown; road from proposed bridge at or near Donnaha via East Bend, Smithton and Mt. Nebo to Booneville and thence to some point on sand clay road from Yadkinville; $20,000 bridge over Yadkin River connecting county with Little Yadkin Twp. A. P. Woodruff, chmn., bd. road comrs.

Camden, S. C.—Estimated cost to pave with bitulithic portions of Main and East and West De Kalb Sts., allowing 19-ft. parkway in center from Lyttleton St. to Southern Ry., and construct full sidewalks on Main St. and 5-ft. sidewalks on other streets, placed between $85,000 and $95,000. G. N. Mitcham, city engr.

Anderson, S. C.—Street paving bonds for $125,000 will be sold Feb. 27, by H. H. Godfrey, mayor; advertised in this issue.

Charleston, S. C.—In annual report present Co. Sanitary and Drainage Comn. (Reid Whitford, secy. and engr.) recommends that this comn. be replaced with Co. Highway Comn. of 7 members to construct future roads and bridges in county and issuance of $300,000 bonds for this year's work.

Chester, S. C.—Election will shortly be held in county to vote $450,000 bonds for proposed road construction work. Address L. P. Slattery, Greenville, S. C.

Surveys of streets in city are being made by H. S. Jaudon, Savannah, Ga., that data for proposed paving may be obtained for proposed bond issue that may be submitted to voters at spring election.

Laurens, S. C.—County is considering construction of 200 miles of roads at estimated cost of $1,500 per mile, but has not decided whether to raise money by direct tax or by bond issue.

Laurens, S. C.—State Legislature, Columbia, is considering bill authorizing issuance of $300,000 bonds by Laurens Co. for improvement of public roads.

Orangeburg, S. C.—At meeting held in Court House Jan. 22 citizens of county approved appointment of Co. Highway Comn. to take charge of proposed road work; $1,000,000 bond issue was suggested to construct 250 miles of trunk roads. Address B. H. Moss, judge.

Walterboro, S. C.—Bill prepared by J. G. Padgett, senator, authorizing Colleton Co. to issue $500,000 bonds and creating Co. Highway Comn. (R. H. Wichman, member, Walterboro) to construct proposed roads, will be introduced into General Assembly, Columbia, for its approval.

Barnesville, Ga.—City voted Feb. 3 to issue $10,000 paving and $5,000 sidewalk bonds for proposed work. B. M. Turner, mayor.

Orlando, Fla.—City contemplates holding election to vote $60,000 bonds for brick paving. Jas. L. Giles, mayor.

Crowley, La.—First Road Dist. of Acadia Parish voted $400,000 bonds for proposed road construction work. J. Frankel, secy. road dist. D. W. Thibodeaux, secy. police jury.

De Ridder, La.—Beauregard Parish (P. L. Ferguson, clk., police jury) has selected L. S. Bryant, highway engr., San Antonio, Tex., for engineering work contemplated with $500,000 bonds recently voted for proposed road work. I. M. Bishop, chmn. com. on roads and bridges.

Lafayette, La.—Lafayette Parish intends constructing 50 miles of gravel roads; also local road under supervision of ward committees in wards of parish, and will hold election March 7 to vote $300,000 bonds to construct and maintain same.

Monroe, La.—See "Excavation, Drainage and Dredging."

Ackerman, Miss.—County intends issuing bonds for proposed construction of road from here to Weir. F. G. Coleman, highway comr., Weir.

Gulfport, Miss.—Bd. Supervs. intend constructing 6 miles of hard-surfaced roads in towns of Biloxi, Pass Christian and Gulfport and has ordered these towns to proceed at once with construction of seawalls.

Hattiesburg, Miss.—Beats 1 and 3 voted Jan. 29 $100,000 bonds to construct roads, two of which are: County links of Jeff Davis-Centennial and Natchez - Mobile highways, total of 40 odd miles. Herbert Gillis, chancery clk.

Hickory, Miss.—Beat 5, Newton County, voted Jan. 20 $12,000 bonds to construct section of Mississippi Travelers' Highway passing through this beat. Address Co. Clk., Decatur.

Magnolia, Miss.—Pike County Road Supervs. sold $50,000 bonds to construct proposed roads.

New Albany, Miss.—Bd. Supervs. have ordered issuance of $300,000 bonds and sold $100,000 of these to construct Bankhead Highway link in county, for which contracts will soon be awarded, as preliminary surveys have been completed.

Waynesboro, Miss.—County sold Jan. 19 $25,000 bonds for proposed road work.

Johnson City, Tenn.—Election will shortly be held by county to vote $750,000 bonds for proposed road construction, for which bill authorizing issuance of bonds was recently passed by State Legislature.

Rogersville, Tenn.—Road bonds for $200,000 will be sold Mar. 15 by Bd. Co. Comrs. (I. E. Shanks, secy.).

Blackey (Indian Bottom, P. O.), Ky.—No bids were received Feb. 16 by city for constructing and improving roads for which $25,000 bonds were voted; undecided when bids will be received. Address R. B. Candill, City Hall.

Catlettsburg, Ky.—County Fiscal Court sold Feb. 6 $175,000 bonds for road and bridge work.

Covington, Ky.—Surveys have been completed for proposed improvements on Hermes Ave. and plans are being prepared for proposed improvements on Madison Ave. by H. G. Meiners, city engr.; city has appropriated $10,000 to oil macadam streets this year; in 1915, 230,000 gal. were used. John J. Craig, mayor.

Danville, Ky.—Contracts will be awarded in May in county for resurfacing 4.5 miles of old macadam roads and paving 4 miles of new roads with water-bound macadam. Will P. Caldwell, road engr.

Cincinnati, O.—Plans being prepared by W. H. Boeh, co. surv., to widen Kemper road from Cincinnati-Dayton pike to Mosteller road and pave same with concrete at estimated cost of $26,971. Cincinnati Speedway Company have offered to donate land necessary for 20-ft. roadway to Speedway.

Cleveland, O.—Contracts will shortly be awarded by city (Robert Hoffman, city engr.) for paving various streets, for which $2,000,000 is available.

Estimated cost to pave 15-ft. strip on Euclid Ave., East Cleveland, between car tracks with granite on concrete foundation, placed at $75,000; work will be done by Cleveland Ry. Co. Chas. H. Clark, ch. engr., Cleveland.

Dayton, O.—City intends paving with brick and setting cement curbs in portion of Western Ave., at estimated cost of $53,475; also paving one portion of East 3d St. with granite blocks, setting granite curb in same, and constructing storm sewers and appurtenances in same (estimated cost $52,130); on other portion paving will be brick (estimated cost $17,595); other street work for which contracts will be awarded in near future includes paving portions of Manhattan ($18,445) and Oxford Aves. ($12,630) with wood block and setting cement curbs in same. John B. Harshman, clk. of city comn.

Findlay, O.—City Council intends paving this spring portions of 4 streets at estimated cost of $34,055, largest job being on Lima Ave., $16,042. U. K. Stringfellow, city engr.

Hamilton, O.—County sold $118,000 bonds for improvements on Hamilton and Scipio, Springdale, Hamilton and Middletown and Franklin roads, on which work will be started in spring.

Lancaster, O.—State Highway Comn., Columbus, intends paving with waterbound macadam or tar 5 miles of roads in Fairfield Co. C. O. Brown, co. engr.

Mt. Gilead, O.—Plans for proposed Mt. Gilead-Waterford road, 4 miles long, call for 10-ft. concrete road with 3-ft. stone shoulder. Address Co. Clk.

Ohio.—State Highway Comn. (Clinton Cowen, comr.) has approximately $10,000,000 for proposed 1917 road construction work.

Port Clinton, O.—Cost to improve Perry St. by paving with concrete (portions of street will be 24 ft., 20 ft. and 17 ft. wide) will be divided between state, which will pay 50 per cent of cost for 16-ft. roadway, and 25 per cent each by county and village; portions of Fulton and Monroe Sts. will also be paved.

Springfield, O.—City intends grading, curbing, guttering and paving with asphaltic concrete portion of Montgomery St. and paving portion of High St. with sheet asphalt, asphalt block, asphaltic concrete or bitulithic. Wm. H. Mahoney, clk., city comn.

Toledo, O.—Contracts will soon be awarded by city for paving various streets; about $1,000,000 available for street work during 1917. H. C. McClure, city engr.

Youngstown, O.—Bd. Pub. Service intends grading, paving and curbing portions of Beatty Ave., paving portion of Fairgreen Ave. and constructing sewer in Smithfield St. M. F. Hyland, city clk.

Willshire, O.—Plans being prepared by L. A. Boulay Co., engr., Nicholas Bldg., Toledo, O., to pave State St., this village, at estimated cost of $22,000.

Zanesville, O.—All bids were rejected by Bd. Pub. Service (W. W. Roach, dir.) Feb. 6 for construction of sidewalks on 4th St. and Forest Ave.

Estimated cost of proposed paving work for 1917 placed at $22,157 more than estimates for work in 1916; increased estimated cost for proposed paving on 6th St. being $7,357; special election will probably be held to vote bonds for this work. Carl Spencer, city engr.

Albion, Ind.—Contracts will be awarded by county in March for constructing brick highways, each 3 miles long; 3 are in Perry Township, 1 is in Sparta; estimated cost $192,000. Will T. Knox, co. surv.

Bloomfield, Ind.—Beach Creek Township voted Feb. 7 to gravel 3 roads. Address Co. Clk.

Columbia City, Ind.—County Comrs. have been petitioned to construct gravel highway or turnpike, 3 miles long, leading west from Weaver school in Troy Township to point 1 mile from intersection with Cornelius road, recently ordered constructed. Thomas A. McLaughlin, co. aud.

Evansville, Ind.—Bd. Pub. Wks. intends constructing artificial sidewalks, 5 ft. wide, on portions of 21 streets, some of which are. Powell, Geil and Morris Aves., Tennessee and Elliott Sts. Edw. N. Frisse, clk.

Ft. Wayne, Ind.—Wm. G. Tonkel, co. road supt., reports county has $29,651 balance on hand from 1916 road fund.

Bd. Pub. Wks. (H. W. Becker, clk.) intends paving with sheet asphalt, asphalt block, creosoted wood block, vitrified shale block, fire clay block, anchored bituminous or bituminous concrete, 6-in. concrete foundation, or with 2-course, 7-in. reinforced concrete, portions of Glasgow (30 ft. wide), Fox (26 ft. wide), and Hoagland (26 ft. wide) Aves.; also portions of eight other streets.

Goshen, Ind.—Contracts about to be awarded by city for paving about 10 miles of streets.

Lafayette, Ind.—County Comrs. have received 2 petitions to grade and pave with brick, concrete, gravel or other suitable material 2 roads, each 3 miles long, in Fairfield Township, one extending east, other southwest. Geo. W. Baxter, co. aud.

New Albany, Ind.—County Comrs. appointed Bds. of Viewers to report on following proposed road improvements: Parts of Indiana and McDonald Aves. in Fairmont Park and Hausfeldt road in New Albany Twp.

South Bend, Ind.—Contracts will soon be awarded by Co. Comrs. to pave with concrete Curtis road.

Warsaw, Ind.—County Comrs. have been petitioned to construct a free gravel road 2 miles long from south end of Anglin road (south of Nappanee) and extend south to south line of Scott Township; also to improve Middlebury road between Goshen and Middleburg, 4 miles long, in Middlebury Township, and 2 miles in southeastern corner of Jefferson Township, and have ordered 2 miles of this road in Elkhart Township constructed. Charles L. Kinney, surv.

Bloomington, Ill.—Estimated cost of paving portion of Walnut St. with brick with asphalt filler and setting stone curbs in same placed at $15,535 and approved by Bd. Local Impts.

Highland Park, Ill.—County intends paving South Sheridan road from Dean Ave. south to county line at estimated cost of $60,000. C. E. Russell, engr., Waukegan.

Superior, Wis.—Douglas Co. Bd. Supervs. Feb. 9 ordered issuance of $500,000 bonds for proposed permanent surfacing of trunk highways.

Davenport, Ia.—County has $72,000 available for proposed road work during 1917. Edw. Collins, co. aud.

Des Moines, Ia.—County intends spending about $45,000 on highway work and $86,000 on bridge work during 1917; some of roads to be graveled are: Corydon, Carlisle, White Pole, and 2 others. W. W. Morehouse, co. engr.

Spencer, Ia.—County has sold $773,000 bonds for proposed road construction work. A. W. Chamberlain, co. aud.

Minneapolis, Minn.—Bd. Aldermen have decided to pave 1st St. Northeast, between 3d Ave. and B'way., in 1st Ward, with creosote blocks. F. W. Cappelen, city engr.

St. Paul, Minn.—City intends paving portions of Linwood Place, Portland and Iglehart Aves. and Earl St.

Willmar, Minn.—Estimated cost to grade and gravel roads in county placed at $33,500. Chas. J. Estlund, highway engr.

Neodesha, Kan.—City intends paving 30 blocks. A. Case, city engr.

Osborne, Kan.—Estimated cost to pave 30 blocks in city placed at $120,000.

Norfolk, Neb.—City will hold election Mar. 10 to vote $30,000 bonds for proposed street work.

Bismark, N. D.—Paving bonds for $300,000 will be sold Mar. 19 by city aud.

Superior, Mont.—Forestry Dept., Missoula, Mont., intends constructing 4½ miles of roads in county at estimated cost of $53,000. J. D. Dwyer, co. clk.

Carthage, Mo.—Plans being prepared by Frank Newton, city engr., for paving with concrete 17,000 sq. yd. and constructing combined concrete curb and gutter. J. B. Lloyd, city clk.

Kansas City, Mo.—At special election to be held March 6, city will vote on question of issuance of $700,000 bonds to pay for proposed roadways and approaches to new Union station.

Argenta, Ark.—Comrs. of Improv. Dist. No. 15, Feb. 7, sold $52,000 bonds for proposed paving of portions of West 5th, West 4th and West 3d Sts. and Pike Ave. R. H. Wolfe, comr.

Dermott, Ark.—County contemplates constructing road, 45 miles long, from Louisiana State line north through Chicot Co.; road dist. is being formed to take charge of work. J. C. Hoffman, road comr.

Buda, Tex.—County sold Feb. 2 $75,000 bonds for proposed road work in Road Dist. No. 3. Address Co. Clk., San Marcos.

Galveston, Tex.—City Comrs. have been petitioned to advertise for bids to pave streets surrounding City Hall and improve portion of 25th St. H. C. Sappington, street comr., wants county boulevard filled in and widened to 100 ft.

Giddings, Tex.—Citizens of Comrs. Precincts Nos. 1 and 2 considering holding election to vote $150,000 bonds for proposed road work. Address L. Farris, secy., citizens' com., Court House.

Houston, Tex.—County Comrs. considering construction of one of 3 routes from here to Brazoria Co. line, which were petitioned for. Address Co. Judge Bryan.

Melvin, Tex.—City voted Jan. 27 $30,000 bonds for proposed road work.

San Antonio, Tex.—City intends paving Jones Ave. for distance of 2 miles from bridge near Ave. B to park, with tarvia, also construct cement sidewalks along this boulevard. Chas. C. Smith, chmn., Jones Ave. Improv. Com.

County Comrs. intend grading 4 blocks of San Antonio Ave., in Comr.'s Precinct No. 1, repairing Braun-Hoffman and Hausman roads from Babcock road to Bandera road in Comr.'s Precinct No. 2, and Goliad road from city limits to Elmendorf road, and grading and claying Terrell road. J. H. Covington, comr.

City intends widening portion of Soledad St. at estimated cost of $60,000, which includes curbing and sidewalk work, $7,000 to $8,000, and paving. A. C. Pancoast, engr.

Okemah, Okla.—Following elections will be held in county to vote bonds for proposed road work: March 9, in Okemah Township, $35,000, and in Castle Township, $10,000; Mar. 10, in Paden Township, $40,000 and in Lincoln Township, $13,000.

Stillwater, Okla.—Payne Co. will construct some clay roads and with earth only, portion about 20 miles long, of "Ozar Trails." Clarence A. Wood, co. engr.

Ft. Morgan, Colo.—County intends grading 60 miles and graveling 50 miles of roads. Glenn S. White, co. engr.

Auburn, Wash.—Plans being prepared by S. J. Humes, co. engr., Seattle, to pave Auburn-Enumclaw road, 12 miles; estimated cost $200,000 to $360,000, depending upon material to be used. N. M. Wardall, co. aud.

Centralia, Wash.—Estimated cost of contemplated cement sidewalk work in proposed sidewalk improvement dist., embracing territory south of Main St., between Tower Ave. and the Puget Sound and Willapa Harbor right-of-way, placed at $23,000.

Olympia, Wash.—F. A. Weir, co. engr., has submitted plans for hardsurfacing 4-mile stretch of Olympia-Tacoma road, for which bids will be asked in early spring, to James Allen, state highway comr.; estimated cost $58,000.

Ralston, Wash.—Contracts will be awarded in early spring for paving with 2 course gravel, permanent highway 1-B, from here 5½ miles south; estimated cost $23,300. O. J. DeSpain, co. engr., Ritzville.

Sprague, Wash.—See "Reinforced Concrete."

Waverly, Wash.—County Comrs. (A. T. Anderson, aud.), Spokane, considering construction of scenic paved highway, 3 miles long, southeast of here; estimated cost $30,000. A. R. Scott, co. engr.

Eugene, Ore.—County (S. M. Russell, clk.) has over $80,000 available for road repair work during this year, in various dists. H. W. Libby, co. surv.

Oregon.—State Legislature has authorized issuance of $1,800,000 bonds for proposed road improvements. John H. Lewis, engr., State Highway Comn., Salem.

Warrenton, Ore. — Contracts will be awarded by Comrs. (G. F. Parker, co. surv.), P. O. box 124, Astoria, this summer, to construct 2 miles of hard surfaced roads in this city, for which City Council has voted $22,000.

Fairfield, Cal.—County contemplates issuing $300,000 bonds to construct 25 miles of concrete roads in Suisun and Green Valley dists.

Los Angeles, Cal.—Plans being prepared to oil and grade 30 miles of roads in recently formed Yorba Linda road dist. Address Co. Clk.

Merced, Cal.—County considering election to vote $1,250,000 bonds for constructing paved highways throughout county.

San Francisco, Cal.—Bd. Park Comrs. considering budget of John McLaren, supt., of $854,900, of which $319,900 is for maintenance and $25,000 to pave and $12,000 to construct sidewalks on Great highway, before submitting same to Bd. Supervs.

Pub. Utilities Com. of Bd. Supervs. has recommended sale of $1,600,000 of $11,000,000 Hetch-Hetchy bonds for proposed 1917 development work, which consists of constructing roads and trails, preliminary power development and purchasing rights-of-way; remainder of bonds, $9,400,000 will not be sold until after June, 1917. M. M. O'Shaughnessy, city engr.

San Jacinto, Cal.—Contracts will shortly be awarded by city for street improvements for which $28,000 bonds have been sold.

San Jose, Cal.—County will hold election March 15 to vote $1,500,000 bonds to construct 80 miles of concrete highways and 100 of graded roads.

Bd. Supervs. Santa Cruz Co. intend constructing highway through Bodfish Canyon, to connect highway contemplated by Santa Clara Co.

Santa Barbara, Cal.—County has appropriated $50,000 to construct proposed Cuyama road from N. E. part of county over mountains into San Joaquin Valley. State will probably contribute $250,000 and Congress may also appropriate funds for project.

Visalia, Cal.—Election will be held in county Mar. 7 to vote $2,200,000 bonds to construct 223 miles of roads with 1½-inch Topeka on 5-in. concrete base. B. O. Lovelace, co. engr.; Geo. R. Prestidge, co. clk.

Idaho.—Roads, Bridges and Ferries Com. of State Legislature favors bill which has approval of Appropriations Com. and State Highway Com., Boise, to issue $1,000,000 bonds for proposed road construction work; roads to be improved with this issue are: North and south highway, $375,000; highway from Challis to Gibbonville, Mont., $120,000; south highway running east and west across southern part of state, $160,000; north and south highway in eastern part of state running from Utah to Montana, $85,000; Fourth of July Canyon road, $75,000.

Toronto, Ont.—Estimated cost of proposed highway, 44 miles long, along Queenston and Grimsby road, leading from Hamilton through Grimsby, Vineland and St. David, placed at $1,100,000 ($25,000 per mile) for concrete, which is favored by Wentworth Co., and at $660,000 ($15,000 per mile) for bituminous roadway, 26 ft. wide, which is favored by Lincoln Co. Hon. F. G. McDiarmid, minister of pub. wks.

York Twp, Ont.—Twp. Council intends spending $150,000 for road work this year. Frank Barber, engr., 57 Adelaide St., E. Toronto.

BIDS DESIRED

Long Island City, L. I., N. Y.—Until Feb. 26 by Maurice E. Connolly, pres. Queens boro., for furnishing and delivering 14,000 cu. yd. highway and asphalt sand, 30,000 cu. yd. broken stone and screening sand, security 30 per cent, for repairing sheet asphalt pavement in 1st, 2d and 3d wards; work includes about 9500 sq. yd. sheet asphalt laid outside of railroad area, 1000 sq. yd. sheet asphalt laid by heater method, city; security, $10,000.

Collingwood, N. J.—Reported desired until Mar. 1 by city for paving several streets, granite block on concrete foundations; cost about $150,000. Remington & Vosbury, 8th and Market Sts., Camden, engrs.

Plainfield, N. J.—Until Mar. 5 by John J. Carroll, city clk., for furnishing crushed stone and materials for culverts and crosswalks for the remainder of year, and possibly for part of 1918.

West Berwick, Pa.—Until Mar. 14 by R. Bruce Carey, city clk., for paving, grading and curbing 2nd, La Salle and portions of other streets. W. H. Eyer, engr., Bloomsburg.

Clarksburg, W. Va.—Reported desired until Mar. 9 by G. N. Harbert, co. road engr., for grading and paving 4 miles of road with brick or other type of paving.

Morgantown, W. Va.—Until Mar. 15 by Co. Court for paving with brick, concrete and macadam 6 miles of highway in Morgan Dist.; cost about $110,000. W. S. Downs, co. engr.

Burlington, N. C.—Reported desired until Mar. 2 by city (Jas. P. Montgomery, secy.) for constructing about 46,000 sq. yd. street pavement, 20,000 lin. ft. combined curb and gutters, and 200 lin. ft. street railway track laying. E. C. Derby, city engr.

Rocky Mount, N. C.—Until Mar. 16 by Bd. Aldermen (C. H. Harris, clk.) for paving Falls Road with standard sheet asphalt with concrete base or with bitulithic pavement; work includes about 19,000 sq. yd. paving, 7000 lin. ft. concrete curb and gutter.

Bushnell, Fla.—Until Mar. 5 by Co. Comrs., Sumterville, for constructing 645,000 lin. ft. roadway; also culverts and bridges; plans may be obtained from W. N. Potter, clk. circuit court, or from W. M. Francisco, engr., Zephyr Hills, Fla.

Florence, Ala.—Reported desired until Mar. 12 by Co. Comrs. for grading 2 miles of Jackson Highway in Lauderdale Co., between Florence and St. Florin, state aid; also for subgrading 3 miles of Florence and Waterloo Road west of Oakland.

Erwin, Tenn.—Until Mar. 16 by Bd. Aldermen and Mayor (O. E. Bogart, town rec.) for 19,000 sq. yd. pavement with necessary grading and storm sewers, concrete sidewalks, etc. H. W. Morgan, town engr.

Morganfield, Ky.—Until Mar. 7 by Union Co. for repairing inter-county seat roadways; cost $20,000. Address Fiscal Court.

Shelbyville, Ky.—Until Feb. 28 for constructing 10 miles of pike road in Shelby Co.; cost about $60,000.

Alliance, O.—By J. C. Devine Co. to sublet 10,000 lin. ft. concrete curb and gutter; advertised in this issue.

Middletown, O.—Reported desired until Mar. 3, by Bd. Trustees (Robert A. Kaser, clk.), for furnishing and applying about 30,000 gal., asphaltic road oil containing about 40 per cent asphaltic residium.

Zanesville, Ohio.—Until about March 25 by State Highway Comn. (Clinton Cowen, comr.), Columbus, for proposed improvement of East Pike from here to New Concord (probably in two sections), 14 miles long; estimated cost $280,000, of which county and federal government will each pay half.

Indiana.—Reported desired by Bd. Co. Comrs., for constructing following roads:

Mar. 2, Indianapolis, for constructing gravel roads; L. K. Fesler, co. aud.

Mar. 3, Plymouth, for constructing 6 roads; O. H. Weber, co. aud.

Muncie, two gravel or macadam roads; F. M. Williams, co. aud

Mar. 5, Rushville, 13,950 ft. cement roadway; W. H. McMillin, co. aud.

Portland, gravel and crushed stone roads; John Bonifas, co. aud.

Rockport, county road; J. Frank Stocking, co. aud.

Brazil, stone and gravel roads; W. O. Graeser, co. aud.

Mar. 6, Mt. Vernon, 21,382 ft. gravel roads, J. R. Haines, co. aud.

Decatur, for 7 macadam roads; some of roads are John Schroll, John Hendricks.

Crawfordsville, for concrete road; Dr. W. F. Batman, co. aud. Monticello, for gravel, stone and tarvia roads; A. G. Fisher, co. aud.

Princeton, for 7 stone roads; J. H. Armstrong, co. aud.

Bloomington, for twp. road work; Horace Blakley, co. aud.

Decatur, 7 macadam roads; John Mosure, co. aud.

Valparaiso, for 2 mi. of gravel road; C. A. Blachly, co. aud., Knox, for twp. road work: C. W. Weninger, co. aud.

Goshen, 4 concrete and gravel roads; A. R. Bemenderfer, co. aud.

Covington, for 8 gravel and stone roads; H. W. Newlin, co. aud.

Mar. 7, Shelbyville, for 15,100 ft. gravel road, and 13,450 ft. gravel and concrete road; F. W. Fagel, co. aud.

Detroit, Mich.—Reported desired until Feb. 28, by Geo. H. Fenkell, comr. pub. wks., for furnishing about 50,000 sq. yd. creosoted wood paving blocks, 3½ in. deep, long leaf yellow pine.

Hudson, Mich.—Until Mar. 1, by Clyde L. Lowe, twp. clk., for constructing about 16 miles of road class "C," including bridges and culverts; certified check for $1,000 to accompany bid.

Monroe, Mich.—Until Mar. 6 by Co. Bd. Comrs., for constructing 13.57 miles on the Dixie Road from Monroe to Rockwood, of 7-in. cement concrete construction; separate bids for constructing said road in 3 sections; advertised in this issue.

Port Huron, Mich.—Until Mar. 3, by Bd. Co. Road Comrs., for constructing about 3 miles of 16 ft. 2 course concrete pavement on Port Huron-Beards Yale Road; also for constructing 1¼ miles, same kind of pavement, on Shore Line Road.

Chenoa, Ill.—Until about Mar. 10, by Bd. Imprvs. (C. H. Ficken) to repave portions of Owsley, Green and Cemetery Sts., cost about $21,000.

Sterling, Ill.—Until Mar. 7, by Roy R. Baer, town clk., for constructing concrete or brick road in Sections 16 and 9, to be known as Pennington Road; work includes about 2442 cu. yd. excavation, 43.6 cu. yd. reinforced concrete in culverts, and 9386.7 yd. of either brick or concrete pavement.

Barksdale, Wis.—Reported desired until Feb. 27 for grading, culverts, guard rail and graveling 3.9 miles on Mail Route road; also for constructing one reinforced concrete bridge; work includes about 16,775 cu. yd. excavation, 200 cu. yd. concrete, 200 cu. yd. guard rail, 780 lin. ft. concrete, etc.; plans may be obtained from State Highway Comn., Ashland.

Fond du Lac, Wis.—Until about Apr. 1 by city for 30,000 sq. yd. pavement; bidders to submit prices on any type of pavement. J. S. McCullough, city engr.

Boone, Ia.—Until Mar. 6 by city for constructing 90,000 lin. ft. curb and gutter. R. M. McCormick, city engr.

Keokuk, Ia.—Until March 15 by city (O. W. Sandberg, city clk.) for construction, consisting of paving 32,000 sq. yd. with brick on 5-in. concrete base (cost $75,000) and 10,000 sq. yd. with one-course concrete, and constructing 15,120 lin. ft. of cement curbs, $16,000. J. F. Winters, city engr.

Columbus, Kan.—Until Mar. 5 by F. H. Hawkins, city clk., for constructing about 11,182 sq. yd. street pavement, 4585 lin. ft. curb and gutter; advertised in this issue.

Fairbury, Neb.—Reported desired until Mar. 1 for paving streets in business section; address M. McMahon, city engr.

St. Charles, Mo.—Until Mar. 5, for 6720 sq. yd. 2-course concrete pavement with reinforcement, 2240 cu. yd. grading, 480 lin. ft. combined granatoid curb and gutter; address Carr Edwards, city engr.

Coupeville, Wash.—Reported desired until Mar. 5, by R. H. Gilespie, co. aud., for constructing 3 miles of permanent highway No. 3.

Davenport, Wash.—Reported desired until Mar. 7, by Co. Comrs., for graveling 12½ miles of permanent highway No. 3; cost about $40,000.

Pomeroy, Wash.—Until Mar. 15 by City Council for paving 15 blocks of Main St.; specifications call for waterbound, oilbound or bituminous macadam pavement.

Spokane, Wash.—Until Mar. 1, by C. T. Bogart, city purch. agt., for furnishing asphalt during 1917; estimated about 500 tons.

Yreka, Cal.—Reported desired until Mar. 5 by W. J. Neilon, co. clk., for constructing highway from top of Forest House Mountain to floor of valley near Ft. Jones, a distance of 3¾ miles.

Woodlands, Man.—Reported desired until Mar. 1 by Major J. Proctor, secy.-treas., for constructing 6 sections of road under Good Roads Act.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Brooklyn, N. Y.**—Following are bids opened Feb. 7 by L. H. Pounds, boro. pres., to repave portions of Summit, Bowne, Commerce and Verona Sts. with granite blocks: Newman & Carey Co., 215 Montague St., $22,591 (awarded contract); M. J. O'Hara, 557 3d St., $22,804; Rosenthal Engr. Contr. Co., 165 Hooper St., $23,583; Frank J. Gallagher, 490 Park Pl., $23,612; Michael F. Scott, 411 Sackett St., $24,184; all contractors, Brooklyn, N. Y.

★**Lockport, N. Y.**—Following are lowest bids opened Feb. 9 by Bd. Supervs. (Roland R. Singer, chmn., special road com.), for road work: McKinney-McGuire Constr. Co., Niagara Falls, N. Y. (awarded contracts), Evershed St., 0.702 mile, $12,197 (estimate $11,831), Lockport St., 1.74 miles, $32,367 (estimate $32,198), both roads lead out of Niagara Falls. C. B. Whitmore Co., Buffalo, N. Y., $17,719 (estimate $15,481), Lockport-Warren's Corners stone road, north of Lockport, 0.7407 miles. Meyer & Meyer Corp., Depew, N. Y., $43,968 (estimate $32,549), Hess road, 4.2 miles, in town of Newfane; bids rejected on last 2 roads—will readvertise. Fred H. Krull, clk.; Thomas N. Brennen, co. highway supt.

★**Olean, N. Y.**—Following are bids opened by city, Feb. 15, to pave about 19,600 sq. yd. on West State St.: D. D. Dugan & Sons, Olean, N. Y., $49,066 (awarded contract); J. B. Hurley, Inc., Fredonia, N. Y., $53,196; H. E. Bunce, Olean, N. Y., $55,033; Dunkirk Constr. Co., Dunkirk, N. Y., $55,989. E. E. Allen, supt. streets.

★**Albany, Ky.**—Following are bids opened Feb. 9 by State Highway Comn. (F. Wiley, comr.), Frankfort, Ky., to construct road surrounding this city: (a) Harris & Myers, Covington, Ky., $73,733 (awarded contract); (b) Solomon Constr. & Engr. Co., Harriman, Tenn., $76,957; (c) Phelps, Post Guyn Co., Lexington, Ky., $89,505; (d) Willmore, Constr. Co., Willmore, Ky., $91,917, $11,473.

	(a)	(b)	(c)	(d)
1,000 lin. rods fence	$0.20	$0.25	$1.00	$0.30
15 acres clearing and grubbing	60.00	50.00	70.00	75.00
80,000 cu. yd. earth excav.	0.30	0.30	0.33	0.33
10,000 cu. yd. solid rock excav.	0.83	0.90	1.00	0.98
20 miles crowning and shaping	100.00	50.00	200.00	140.00
1,756 lin. ft. 18-in. corrugated metal pipe	0.50	0.40	0.80	0.75
1,000 lin. ft. 24-in. corrugated metal pipe	0.65	0.50	0.90	0.85
300 lin. ft. 30-in. corrugated metal pipe	0.85	0.55	1.00	1.00
300 sq. yd. paving ditches	0.50	1.50	1.75	1.15
500 sq. yd. paving slope	0.50	1.50	1.75	1.15
500 cu. yd. riprap	0.50	1.50	2.00	2.50
250 cu. yd. concrete, Class A, 1-2-4	12.00	12.00	14.00	18.00
415 cu. yd. concrete, Class B, 1-2½-5	10.00	11.00	13.75	17.00
15 cu. yd. concrete, Class C, 1-3-6	8.00	10.00	13.75	16.00
10 cu. yd. concrete, Class H. R., 1-2-3	25.00	15.00	30.00	35.00
35,000 lb. reinforced steel	0.08	0.075	0.08	0.09
17,000 cu. yd. crushed stone	1.50	1.65	1.75	1.85

★**Hunterton, N. J.**—Contract awarded by county (bids opened Feb. 15) to M. Irving Demarest, Sewaren, N. J., at $15,660, for furnishing crushed stone for use during 1917. Grant Davis, co. engr.

Newark, N. J.—Following bids were opened Feb. 1, by Street & Water Bd., City Hall: John P. Callaghan, Inc., 31 Clinton St., Newark, for 300 tons Portland cement, at $10.12 per ton, and for 2,000 cu. yds. broken stone at $2.24 per cu. yd.; Standard Oil Co. of N. J., 31 Clinton St., Newark, 300 tons asphaltic cement, at $18.82 per ton; Edison Pulverized Limestone Co., 1133 Broadway, New York City, 200 tons limestone dust, $5.51 per ton.

★**Asheville, N. C.**—Contract awarded by city (bids opened Feb. 10) to Asheville Paving Co. for paving with asphalt concrete, 25,000 sq. yd. with sheet asphalt, 4650 sq. yd., with brick, 4650 sq. yd., with Durax, 5200 sq. yd.

★**Gainesville, Fla.**—Contract awarded by city (G. H. Cairns, city engr. and street comr.) to Southern Clay Mfg. Co., Chattanooga, Tenn., at $25,000 to pave 15,000 sq. yd. with brick.

★**Port Gibson, Miss.**—Contract awarded by town to Geo. T. Liebkemann, 1442 Vinton Ave., Memphis, Tenn., for constructing 6 miles of concrete sidewalks requiring 17,600 sq. yd. of walks and 1200 cu. yd. of grading at $0.8676 per sq. yd. for walks and $1.1025 per sq. yd. for crossings.

★**Murfreesboro, Tenn.**—Contract awarded by city (bids opened Jan. 19) to West Constr. Co., Chattanooga, Tenn., at $38,563, to pave 22,900 sq. yd. with asphaltic concrete and construct combined curb and gutters.

★**Covington, Ky.**—Contract awarded by city to Kentucky Road Oil Co., 503 Coppin Bldg., at $9,985, for oiling city's streets during 1917.

Urichsville, O.—Lowest bid opened Feb. 12 by city for paving, draining and curbing on Deersville Ave., was from Springer & Rogers, New Philadelphia, O., at $16,065 for light and color metal block and at $16,358 for novelty brick.

★**Auburn, Ind.**—Contracts awarded by Co. Comrs. to Snyder, Harsham & Farrell, Frankfort, Ind., Jan. 23, at $24,995, to pave with brick Auburn-St. Joe highway and to Fulton, Studebaker & Woodward, Bluffton, Ind. (bids opened Feb. 7), at $25,600, to pave with stone Archie Bowman gravel road in Smithfield Twp.

★**Brownstone, Ind.**—Contract awarded by Co. Comrs. to T. J. Connell, Cambridge City, Ind., at $11,450, to construct gravel road in Connersville Twp.

★**Indianapolis, Ind.**—Contract awarded by city to Burke Bros., Anderson, Ind., at $54,000, to pave Sherman Drive with concrete.

★**Logansport, Ind.**—Contract awarded by Co. Comrs. to D. A. Hyman, Logansport, Ind., at $23,994, for constructing road in Tipton Twp.

Following bids were opened Feb. 9 by Co. Comrs. to construct new entrance to Riverside Park, which will eliminate dangerous angle in roadway leading to bridge from Parkway; C. C. King & Co., $18,296; American Constr. Co., 108 N. Delaware St., $21,821.

★**Mt. Vernon, Ind.**—Contracts awarded Feb. 8 by county for constructing rock roads in Robinson Township to J. W. Owen & Son, Poseyville, at $14,750, for road No. 3, 13,240 ft. long, and at $8,873 for road No. 1, 10,417 ft. long, and in Robb Township, at $3,990 for Geo. C. Smith gravel road, 7839 ft. long.

★**Spencer, Ind.**—Contract awarded by Co. Comrs. to McBride & Hickman, Freedom, Ind., at $13,000, for road contracts.

★**St. Joseph, Mich.**—Contracts awarded (bids opened Jan. 31) by Bd. Road Comrs., to W. W. McCracken, at $48,000, to construct 5.7 miles, and to Walter Budzbanowski, at $33,300, for 4.6 miles of waterbound macadam roads; both contractors in St. Joseph, Mich. Will J. Cleary, engr., bd. road comrs.

Cambridge, Ill. — Following bids were opened Feb. 14 by city to pave 6050 sq. yd. with asphaltic filler on 5-in. concrete base: Pub. Service Constr. Co., Omaha, Neb., $15,428 (probably be awarded contract); Gund Graham, Freeport, Ill., $15,508; H. K. Rhodes, Lincoln, Ill., $15,971. H. G. Stokes, engr., Kewanee, Ill.

★**Milwaukee, Wis.**—Contract awarded by Dept. Pub. Wks., Feb. 8, to Wisconsin Constr. Co., at $31,228, to pave portion of Hawley road and Groeling Ave. with bituminous concrete.

Lowest bids received by city to pave with asphalt portion of Galena St., from F. P. Coughlin Co., $26,855; 2nd Ave., from White Constr. Co., 1006 Ry. Exchange Bldg., $38,598.

★**Whitewater, Wis.**—Contract awarded by city (bids opened Jan. 30) for constructing sewer and paving in several streets, including 12,000 sq. yd. brick, 18,000 sq. yd. concrete pavement, to Ed. S. Bartlett, Watertown, at $63,400. A. N. Savee, city clk.

Minneapolis, Minn.—Following are bids opened Jan. 25 by Purchasing Dept. of city (K. E. Alexander, agent), for Portland cement: Hydraulic Press Brick Co., 211 S. 4th St., 25,000 bbls., at $2.23 per bbl. f. o. b. cars, sacks incl., cartage, $0.17 per bbl.; Mill City Lime & Cement Co., 922 N. 3d St., 20,000 bbls., at $1.88 per bbl., f. o. b. cars, sacks extra, $0.10 each; Landers-Morr-Christenson Co., 315 Labor Exchange Bldg., 125,000 bbls., at $2.23 per bbl. f. o. b. cars, sacks, incl., cartage, $0.15 per bbl.

★**Montevideo, Minn.**—Contract awarded by city to Fielding & Shepley, St. Paul, Minn., at $53,793, for paving 17,537 sq. yd. on 1st St. with creosote wood blocks and 660 sq. yd. on Lincoln Ave. with 7-in. concrete surface.

Galveston, Tex.—At mass meeting held in Cotton Exchange taxpayers voted to pave Avenue O with bitulithic at estimated cost of $59,000, as submitted by Bitulithic Paving Co. (J. H. Pittman, rep.), Dallas, Tex.

★**San Antonio, Tex.**—Contract awarded by Medina Dam Toll Road Co., San Antonio, to Wright-Gutzeit-Howard Syndicate, San Antonio, for constructing toll road from Cliff P. O. on present Culebra-Castroville road, running northwesterly to point 2 miles above main dam, then south to east end of this dam—estimated cost, including construction of bridges, toll-keeper's house, and to drive well, placed at $41,000.

★**Ardmore, Okla.**—Contract awarded by city (bids opened Jan. 30) to Mason-Wills Constr. Co., Ft. Worth, Tex., at $22,307, for paving D St. N.W. and A St. N.W., with concrete. G. H. Bruce, city clk.

Albuquerque, N. M.—Contract awarded Jan. 29 by city to John A. Laughlin, Trinidad, Col., for paving with concrete West Central Ave. and portions of North 8th St. and Kent and Tijeras Aves. G. H. Hammond, alderman.

Bellingham, Wash.—Only bid received by Bd. Pub. Wks. for paving Dakin St. through Silver Beach was from K. Sauset, local, at $18,042 for concrete and $18,241 for asphalt.

Seattle, Wash.—Following are bids opened by Bd. Pub. Wks. (C. B. Bagley, secy.) for paving with brick and constructing concrete curbs on portion of Rainier Ave.: Washington Paving Co., L. C. Smith Bldg., $38,335; Seattle Paving Co., $40,823; D. Parisi & L. Rechio Co., 1506 16th St., $42,173; all of Seattle.

★Contract awarded by county to Henry Brice, Mutual Life Bldg., Seattle, at $28,331, to grade and gravel 3 miles of road between Lane Burien and Three Tree Point.

★**Astoria, Ore.**—Contracts awarded Feb. 13, by County Court, to Fred. C. Feldschau, Tillmook, Ore., at $20,631, for grading and to Montague-O'Reilly Co., Portland, Ore., at $41,574, for paving with asphaltic concrete 4 miles of Lewis and Clark road. Geo. F. Parker, co. surv., P. O. Box 124.

★**Glenville, Cal.**—Contracts awarded (bids opened Feb. 6) by Bd. Supervs., Bakersfield, for grading and constructing corrugated iron and concrete culverts and timber bridges on Bakersfield-Glenville road: To Ward C. Northerest, Woody, Cal., at $17,735, for work on div. 9, sect. 5A, 5.87 miles long, between here and end of sect. 5, and to Isbell Constr. Co., Ventura, Cal., at $19,264, for work on div. 9, sect. 5, 5.7 miles long, between end of sect. 4 and point near N.W. cor of sect. 32.

★**Lemoore, Cal.**—Contract awarded by Bd. Supervs., Hanford (bids opened Feb. 5) to Thompson Bros., Fresno, Cal., at $31,500, for paving with 1½-in. Topeka on 2½-in. asphaltic concrete base, 640,000 sq. ft., including 9000 cu. yd. excav. and 1000 ft. guard fence on highway No. 1, Div. 4, between here and Browndale Road.

TUNNELS AND SUBWAYS

PROPOSED WORK

Jersey City, N. J.—Hudson County Bd. Chosen Freeholders has renewed its appropriation of $10,000 for proposed survey of Hudson River bridge-tunnel project; Bergen and Essex counties taking similar action.

Philadelphia, Pa.—W. S. Twining, Dir. Transit Dept., 754 Bourse Bldg., estimates cost of proposed subways and elevated lines at $90,000,000, with additional $14,000,000 for necessary operating equipment; present appropriation of $63,000,000 to be used for constructing subways, delivery loops and work on Frankford elevated road.

Charleston, W. Va.—Kanawha & Mich. Ry. (C. M. McVay, engr. M. W., Charleston) contemplates constructing subways under tracks at Florida St.; cost $15,000.

BIDS DESIRED

Los Angeles, Cal.—Until Mar. 26 (change of date) by Bd. Pub. Wks. (Horace B. Ferris, secy.) for constructing 2d St. tunnel to be about 1502 ft. long, 50 ft. radius in clear from Hill to Figueroa St., involving about 99,700 cu. yd. excavation, 109,670 cu. yd. earth to be hauled (including 10 per cent increase over excavation in bank), 17,003 cu. yd. concrete, 361,850 lb. reinforcing steel, 2710.2 M brick in arch, 125,620 sq. ft. enameled tile, 126,000 sq. ft. plaster intrados, 9750 sq. ft. cement walks, 62,200 sq. ft. bitulithic pavement, etc.; cost about $800,000. Homer Hamlin, city engr.

RAILWAYS
Steam and Electric

PROPOSED WORK

Jersey City, N. J.—See "Waterworks and Sewerage Systems."

Newark, N. J.—See "Water and Sewerage Systems."

Newark, N. J.—Public Service Ry. Co. (R. E. Danforth, gen. mgr.) considering construction of trolley line on Ave. R.

Trenton, N. J.—Erwing Township will apply to State Legislature to donate land for elimination of grade crossings along Delaware & Bound Brook RR. and Philadelphia & Reading Ry. Co. Linton Satterthwaite, atty. for township, American Mechanic Bldg., Trenton.

Philadelphia, Pa.—Following are unit figures and totals of bids opened Feb. 6, by W. S. Twining, Dir. Dept. City Transit, for Contracts 201, 202, and 203 for delivery subway loop: (a) Keystone State Constr. Co., 704,709 Pennsylvania Bldg., Philadelphia, Contr. 201, $1,575,760, Contr. 202, $2,494,142, Contr. 203, $1,713,715; (b) Smith, Hauser & MacIsaac Co., 18 E. 41st St., New York, N. Y., Contr. 201, $1,734,116, Contr. 202, $2,420,303, Contr. 203, $1,895,034; (c) Underpinning & Found. Co., 290 Broadway, New York, N. Y., Contr. 201, $1,900,617, Contr. 202, $2,942,717, Contr. 203, $2,110,152; (d) Philadelphia, Subway Constr. Co., 712 Lincoln Bldg., Philadelphia Subway, Contr. 201, $2,023,115, Contr. 202, $2,763,700, Contr. 203, $2,160,877.

For Contract No. 201, subway and stations in Arch St., from the east side of Broad St. to west of Eighth St.

	(a)	(b)	(c)	(d)
130,000 cu. yds. excavation above elevation zero	$3.90	$4.85	$4.10	$6.00
6,000 cu. yds. excavation below elevation zero	7.00	5.50	4.10	7.00
100,000 ft. B. M. yellow pine lumber, per 1000 ft. B. M.	40.00	125.00	100.00	50.00
Underpinning Buildings:				
Lump sum (a) Nos. 1337, 1339, 1341, 1343, 1345, 1347 Arch St.	67,900.00	35,000.00	75,000.00	25,000.00
Lump sum (b) Reading terminal	25,000.00	39,000.00	30,000.00	30,000.00
1,930 ft. front (c) buildings, 5 stories or less in height	65.00	46.00	140.00	90.00
340 ft. front (d) buildings, over 5 and less than 10 stories in height	105.00	65.00	175.00	130.00
125 ft. front (e) buildings, 10 stories or over in height	160.00	80.00	180.00	160.00
500 cu. yds. (f) additional masonry for underpinning	20.00	8.00	1.00	10.00
Concrete Masonry:				
50 cu. yds. (a) Class A-1:1½:3	12.00	40.00	15.00	14.00
20,500 cu. yds. (b) Class B-1:2:4	10.60	11.50	12.00	13.00
1,750 cu. yds. (c) Class C-1:3:6	9.80	11.00	11.00	12.00
300 cu. yds. (d) Class D-1:4:8	9.00	10.50	9.00	11.00
2,000 sq. ft. reinforced concrete sheathing	.50	1.00	2.00	2.00
400 cu. yds. brick masonry	12.00	25.00	25.00	18.00
200 cu. yds. hollow terra cotta brick masonry	15.00	25.00	25.00	18.00
200 cu. yds. rubble masonry	3.00	15.00	8.00	9.00
500 sq. yds. vitrified shale brick sewer lining	1.50	2.50	2.75	3.00
50 sq. yds. granite block sewer lining	2.50	3.00	2.75	3.00
Building new manholes and wellholes:				
25 manholes (a) manholes	50.00	130.00	160.00	150.00
150 vt. ft. (b) wellholes	5.50	12.00	15.00	9.00
Building new inlets:				
1 inlet (a) No. 1 inlet	100.00	250.00	200.00	150.00
3 inlets (b) No. 2 inlet	100.00	250.00	190.00	140.00
1 inlet (c) No. 3 inlet	100.00	250.00	180.00	125.00
1 inlet (d) No. 4 inlet	50.00	250.00	170.00	115.00
Taking out and rebuilding inlets:				
21 inlets (a) having standard pattern casting	35.00	225.00	200.00	125.00
3 inlets (b) having old pattern casting to be replaced by standard	35.00	250.00	190.00	150.00
Flagstones:				
100 sq. ft. (a) 2-inch thickness	.30	.50	.60	.30
100 sq. ft. (b) 4-inch thickness	.50	.80	1.20	.50
100 sq. ft. (c) 6-inch thickness	.75	1.20	1.80	.75
100 cu. yds. dry rubble masonry or riprap	2.00	15.00	7.50	6.00
200 cu. yds. broken stone or gravel for drains	2.00	2.00	4.00	2.50
1,000 bags cement, cement grout	1.25	1.00	1.60	1.00
5,500 sq. yds. granolithic finish	.75	.150	2.20	1.75
Fabric waterproofing:				
1,000 sq. yds. (a) 1-ply	.70	1.00	.95	.90
2,000 sq. yds. (b) 2-ply	1.10	1.25	1.75	1.20
100 sq. yds. (c) 3-ply	1.50	1.50	2.55	1.50
100 sq. yds. (d) 4-ply	1.80	2.00	3.55	1.80
2,000 sq. yds. 1-ply dry roofing felt	.30	.40	.80	.75
12,000 sq. yds. asphaltic mastic waterproofing	1.60	2.00	1.75	2.50
550 cu. yds. brick in waterproofing compound	28.00	35.00	29.00	30.00
Vitrified clay pipe:				
1,500 lin. ft. (a) 4-inch	.30	.40	.40	.40
2,000 lin. ft. (b) 5-inch or 6-inch	.50	.50	.50	.50
500 lin. ft. (c) 8-inch or 10-inch	.50	1.00	.75	.60
500 lin. ft. (d) 12-inch	1.00	1.25	1.00	.80
2,700 lin. ft. (e) 15-inch or 18-inch	3.00	1.60	1.50	1.00
Extra heavy cast-iron soil pipe:				
400 lin. ft. (a) 3-inch	.50	2.00	.90	.50
500 lin. ft. (b) 4-inch	.50	2.00	1.20	.80
1,000 lin. ft. (c) 5-inch	.70	2.50	1.50	1.00
2,000 lin. ft. (d) 6-inch	1.00	2.50	1.80	1.25
Cast-iron pipe furnished:				
100 net tons (a) bell and spigot straight, per 2000 lbs.	50.00	90.00	60.00	60.00
25 net tons (b) bell and spigot specials, per 2000 lbs.	90.00	120.00	120.00	110.00
20 net tons (c) flange high-pressure straight, per 2000 lbs.	80.00	100.00	110.00	75.00
10 net tons (d) flange high-pressure specials, per 2000 lbs.	160.00	175.00	160.00	160.00
5 net tons flange high-pressure cast steel specials furnished, per 2000 lbs.	300.00	200.00	240.00	220.00
Laying or removing cast-iron pipe:				
200 net tons (a) bell and spigot pipe and specials, per 2000 lbs.	12.00	60.00	40.00	50.00
100 net tons (b) flange high-pressure pipe and specials, per 2000 lbs.	15.00	60.00	60.00	60.00
Bell end water gate valves:				
1 valve (a) 30-inch geared gate valve	550.00	900.00	300.00	800.00
1 valve (b) 24-inch gate valve	325.00	500.00	240.00	400.00
1 valve (c) 20-inch gate valve	220.00	300.00	200.00	260.00
1 valve (d) 16-inch gate valve	125.00	175.00	160 00	180.00
5 valves (e) 12-inch gate valve	65.00	90.00	120.00	100.00
5 valves (f) 10-inch gate valve	50.00	75.00	100.00	72.00
10 valves (g) 8-inch gate valve	40.00	40.00	80.00	50.00
10 valves (h) 6-inch gate valve	35.00	30.00	60.00	30.00
2,000 lbs. wrought-iron or steel pipe, any size	.08	.10	.075	.15
Wrought-iron or steel pipe conduit:				

(*Continued on page* 110)

Perth Amboy, N. J.—Public Service Ry. Co. plans extensions to its system, northwest section of the city, connecting with its line at Rogan's Corner.

Philadelphia, Pa.—Lehigh Valley RR. Co. (E. B. Ashby, ch. engr., New York), considering electrification of its new line through the mountains of Pennsylvania, and its branches in the anthracite coal section.

Philadelphia, Pa.—See "Subways and Tunnels."

Waynesburg, Pa.—Waynesburg & Washington RR., owned by Pennsylvania RR. Co. (Alex. C. Shand, ch. engr., Philadelphia) will extend its line from Besco to Clarksville, then to Marianna and up valley of south branch of Ten Mile Creek to Waynesburg.

Maugansville, Md.—Cumberland Valley RR. Co. (Samuel Rea, vice-pres., Philadelphia, Pa.) completed survey for new freight line from here to Potomac River.

Charleston, W. Va.—Work will start in spring on building a 20-mile line from main line of Kanawha and Michigan Railroad (F. B. Sheldon, vice-pres., Columbus, O.) up west bank of Gauley river; preliminary surveys completed; cost about $1,000,000.

Glenn's Run, W. Va.—Pennsylvania Lines West of Pittsburgh (W. C. Cushing, ch. engr., Pittsburgh, Pa.) to make track and yard improvements near here and New Cumberland Junction; cost about $1,000,000. Will include second track and yard developments.

Burlington, N. C.—Piedmont Ry. & Electric Co. (J. H. Bridges, pres.) reported surveying for extension of its trolley line to Hopedale, about 3 miles.

Miami, Fla.—Election will be held by city Mar. 2 on question of issuing $50,000 bonds to be used for municipal railroad improvements.

Loraine, O.—Plans being prepared by Lorain, Ashland & Southern Ry. (J. W. Orr, vice-pres.), for elimination of grade crossings on Broadway.

Terre Haute, Ind.—Evansville & Indianapolis R. R. Co. (W. P. Kappas, rec. and treas., Lemcke Bldg., Indianapolis), asked for franchise from city to provide for changes and extensions of tracks for terminal facilities in preparation for erecting new freight and passenger depot; cost of improvement about $100,000.

Liberal, Kan.—C... Comrs. will vote Mar. 6 on issuing bonds to aid in the construction of Colorado, Kansas & Oklahoma RR. to connect Forgan and Scott City by way of Garden City and Liberal.

Mitchell S. D.—Mitchell & Northwestern Ry. will construct a line from here to Ree Heights, through the counties of Davison, Sanborn, Aurora, Jerauld, Buffalo and Hand; capital $2,000,000. Incorporators, W. L. Bruce, Yankton; L. J. Welsh, Mitchell, and others.

Cascade, Mo.—Ozark Valley Ry. Co. (Chas. Thorborn, ch. engr., Williamsville) plans extension from here to Buckhorn, about 4 miles, including 90-ft. trestle.

St. Louis, Mo.—Bd. Pub. Wks., Chicago, Rock Island & Gulf Ry. and Wabash RR. considering eliminating its grade crossings on the northern boundary of Forest Park; cost about $1,500,000.

Claremore, Okla.—St. Louis, Iron Mountain & Southern RR. (E. A. Hadley, ch. engr., St. Louis, Mo.) planning construction of branch road from here to Tulsa, about 25 miles long.

Clinton, Okla.—Clinton & Oklahoma Western RR. (W. S. Haid, gen. mgr.) plans extending railroad from here to Colony. Surveys now being made.

Seattle, Wash.—Supt. J. E. Craver, Seattle Division, Northern Pacific Ry., reports railroad grade near Shoskin will be raised from 4 to 6 ft. in the spring and about 20 miles of 90-lb. rails will be laid on the main line between Auburn Junction and Eagle Gorge.

St. Helens, Ore.—Walter Holland, of the H. B. & A. Logging Co. reports his company will construct 4 miles logging railroad from Loomis Crossing, on the St. Helens Lumber Co.'s line, following Milton Creek to the H. B. & A. Co.'s timber holdings.

New Westminster, B. C.—Formal approval of the plans for the construction of the Canadian Northern Ry. (M. H. MacLeod, ch. engr., Winnipeg, Man.) tracks through the city, involving diversion of Columbia St. and removal of locomotive sheds, received and construction will be started soon.

(*Continued from page* 109)

4,000 lin. ft. (a) ¾-inch or 1-inch enameled conduit	.20	.25	.20	.30
1,000 lin. ft. (b) 1¼-inch or 1½-inch enameled conduit	.30	.60	.30	.36
500 lin. ft. (c) 2½-inch galvanized conduit	.60	.70	.60	.60
5,000 lin. ft. (d) 3-inch galvanized conduit	.70	.80	.75	.90
500 lin. ft. (e) 3½-inch galvanized conduit	.80	1.00	.90	1.10
30 cesspools, 10-inch grate iron bell trap cesspoo.s	3.00	100.00	100.00	20.00
80,000 lbs. miscellaneous iron castings	.07	.10	.0.5	.07
60,000 duct ft. terra cotta ducts	.12	.15	.16	.15
10,000 duct ft. relocating city ducts and conduits	.12	1.00	1.20	.60
Structural steel:				
783,000 lbs. (a) steel columns	.06	.063	.06	.065
484,000 lbs. (b) steel I beams used as columns	.06	.063	.06	.065
2,352,000 lbs. (c) steel I beams and channels in roofs and floors	.06	.063	.06	.065
353,000 lbs. (d) riveted plate or lattice girders	.06	.063	.06	.065
100,000 lbs. (e) riveted struts and miscellaneous steel work	.06	.063	.06	.065
60,000 lbs. (f) tie rods, bolts, nuts, washers, dowels and anchor bolts	.06	.063	.06	.065
100 net tons interlocking steel sheet piling, per 2000 lbs	100.00	100.00	200.00	120.00
Steel pipe piles:				
100 vt. ft. (a) 12-inch	4.00	5.50	8.00	8.00
1,000 vt. ft. (b) 15-inch	6.00	6.00	9.00	10.00
700,000 lbs. steel reinforcing rods and bars	.06	.045	.07	.07
5,000 lbs. steel wire forms and anchors	.20	.08	.30	.20
2,000 sq. ft. steel ventilation gratings	.20	2.00	1.60	3.50
20,000 sq. ft. painting steel work	.01	.05	.10	.10
3,000 sq. ft. safety treads	2.50	1.50	1.30	1.50
3,000 sq. ft. vault lights	1.50	1.50	1.20	1.75
Cartway paving:				
120 sq. yds. (a) asphalt	3.00	5.00	4.00	4.00
11,000 sq. yds. (b) wood block	4.00	5.75	4.00	4.50
100 sq. yds. (c) granite block	4.00	5.00	4.00	4.00
100 sq. yds. (d) vitrified block	3.30	5.00	4.00	4.50
Sidewalk repaving:				
7,000 sq. yds. (a) granolithic	1.80	1.50	3.70	2.50
100 sq. yds (b) brick	1.00	2.50	3.70	2.50
2,200 sq. yds. (c) flagstone	1.00	2.00	3.70	2.50
Curbing:				
200 lin. ft. (a) 6-inch straight granite	1.50	2.00	1.50	2.00
500 lin. ft. (b) 8-inch straight granite	2.30	2.60	2.40	2.50
100 lin. ft. (c) 6-inch curved granite	2.40	3.00	3.00	3.50
200 lin. ft. (d) 8-inch curved granite	2.70	3.50	4.00	4.00
500 lin. ft. (e) steel edge concrete	1.25	1.50	1.00	1.00
4,000 lin. ft. resetting curb	.25	1.00	.40	.30
$25,000 force account	30%	20%	30%	30%

For Contract No. 202, subway and station in Eighth St., from Arch St. to Locust St.:

	(a)	(b)	(c)	(d)
115,000 cu. yds. excavation above elevation zero	$3.90	$4.75	$6.00	$6.00
50,000 cu. yds. excavation below elevation zero	7.00	5.40	6.00	6.60
100,000 ft. B. M., yellow pine lumber, per 1000 ft. B. M.	40.00	125.00	100.00	50.00
Underpinning buildings:				
Lump sum (a) Eighth and Arch Sts. curve	77,360.00	36,000.00	75,000.00	60,000.00
Lump sum (aa) Eighth and Locust Sts. curve	42,150 00	34,000.00	75 000 00	40,000.00
Lump sum (b) Market St. subway	60,000.00	48,000.00	75,000.00	40,000.00
2,860 ft. front (c) buildings, 5 stories or less in height	121.00	69.00	150.00	80.00
282 ft. front (d) buildings, over 5 and less than 10 stories in height	156.00	117.00	200.00	120.00
500 cu. ft. (f) additional masonry for underpinning	20.00	8.00	1.00	10.00
Concrete masonry:				
50 cu. yds. (a) Class A-1:1½:3	12.00	40.00	15.00	14.00
28,000 cu. yds. (b) Class B-1:2:4	10.60	11.50	12.00	13.00
5,000 cu. yds. (c) Class C-1:3:6	9.80	11.00	11.00	12.00
300 cu. yds. (d) Class D-1:4:8	9.00	10.50	9.00	11.00
2,000 sq. ft. reinforced concrete sheathing	.50	1.00	2.00	2.00
300 cu. yds. brick masonry	12.00	25.00	25.00	18.00
200 cu. yds. hollow terra cotta brick masonry	15.00	25.00	25.00	18.00
200 cu. yds rubble masonry	3.00	15.00	9.00	9.00
100 sq. yds. vitrified shale brick sewer lining	1.50	2.50	2.75	3.00
50 sq. yds. granite block sewer lining	2.50	3.00	2.75	3.00
Building new manholes and wellholes:				
18 manholes (a) manholes	50.00	130.00	200.00	150.00
500 vt. ft. (b) wellholes	7.00	12.00	15.00	9.00
Building new inlets:				
1 inlet (a) No. 1 inlet	100.00	250.00	200.00	150.00
3 inlets (b) No. 2 inlet	100 00	250.00	190.00	140.00
1 inlet (c) No. 3 inlet	100 00	250.00	180.00	125.00
1 inlet (d) No. 4 inlet	50.00	250.00	170.00	115.00
Taking out and rebuilding inlets:				
11 inlets (a) having standard pattern casting	35.00	225.00	200.00	125.00
7 inlets (b) having old pattern casting to be replaced by standard	35.00	250.00	190.00	150.00
Flagstones:				
100 sq. ft. (a) 2-inch thickness	.30	.50	.60	.30
100 sq. ft. (b) 4-inch thickness	.50	.80	1.20	.50
100 sq. ft. (c) 6-inch thickness	.75	1.20	1.80	.75
100 cu. yds. dry rubble masonry or riprap	2.00	15.00	7.50	6.00
200 cu. yds. broken stone or gravel for drains	2.00	2.00	4.00	2.50
1,000 bags cement, cement grout	1.25	1.00	1.60	1.00
5,000 sq. yds. granolithic finish	.75	1.50	2.20	1.75
Fabric waterproofing:				
16,000 sq. yds. (a) 1-ply	.70	.90	.95	.90
500 sq. yds. (b) 2-ply	1.10	1.25	1.75	1.20

4,000 sq. yds. (c) 3-ply	1.50	1.50	2.55	1.50
100 sq. yds. (d) 4-ply	1.80	2.00	3.55	1.80
5,000 sq. yds. 1-ply dry roofing felt	.30	.40	.80	.75
11,500 sq. yds. asphaltic mastic waterproofing	1.60	2.00	1.75	2.50
3,200 cu. yds. brick in waterproofing compound	28.00	32.00	29.00	30.00
Vitrified clay pipe:				
1,500 lin. ft. (a) 4-inch	.30	.10	.40	.40
1,000 lin. ft. (b) 5-inch or 6-inch	.50	.50	.50	.50
500 lin. ft. (c) 8-inch or 10-inch	.50	1.00	.75	.60
500 lin. ft. (d) 12-inch	1.00	1.25	1.00	.80
4,600 lin. ft. (e) 15-inch or 18-inch	3.00	1.60	1.50	1.00
200 lin. ft. (f) 20-inch	4.00	2.00	2.00	1.35
Extra heavy cast-iron soil pipe:				
300 lin. ft. (a) 3-inch	.50	2.00	.90	.50
500 lin. ft. (b) 4-inch	.50	2.00	1.20	.80
1,000 lin. ft. (c) 5-inch	.70	2.50	1.50	1.00
1,500 lin. ft. (d) 6-inch	1.00	2.50	1.80	1.25
Cast-iron pipe furnished:				
100 net tons (a) bell and spigot straight, per 2000 lbs.	50.00	90.00	60.00	60.00
25 net tons (b) bell and spigot specials, per 2000 lbs.	90.00	120.00	120.00	110.00
25 net tons (c) flange high-pressure straight, per 2000 lbs.	80.00	100.00	110.00	75.00
10 net tons (d) flange high-pressure specials, per 2000 lbs.	160.00	175.00	160.00	160.00
5 net tons flange high-pressure cast steel specials furnished, per 2000 lbs.	300.00	200.00	240.00	220.00
Laying or removing cast-iron pipe:				
200 net tons (a) bell and spigot pipe and specials, per 2000 lbs.	12.00	60.00	40.00	40.00
100 net tons (b) flange high pressure pipe and specials, per 2000 lbs.	15.00	60.00	60.00	50.00
Bell end water gate valves:				
1 valve (d) 16-inch gate valve	125.00	175.00	160.00	180.00
3 valves (e) 12-inch gate valve	65.00	90.00	120.00	100.00
5 valves (f) 10-inch gate valve	50.00	75.00	100.00	72.00
5 valves (g) 8-inch gate valve	40.00	40.00	80.00	50.00
5 valves (h) 6-inch gate valve	35.00	30.00	60.00	30.00
75,000 lbs. wrought-iron or steel pipe, any size	.08	.09	.075	.10
Wrought-iron or steel pipe conduit:				
3,000 lin. ft. (a) ¾-inch or 1-inch enameled conduit	.20	.25	.20	.30
1,000 lin. ft. (b) 1¼-inch or 1½-inch enameled conduit	.30	.60	30	.36
500 lin. ft. (c) 2½-inch galvanized conduit	.60	.70	.60	.60
3,000 lin. ft. (d) 3-inch galvanized conduit	.70	.80	.75	.90
500 lin. ft. (e) 3½-inch galvanized conduit	.80	1.00	.90	1.10
25 cesspools, 10-inch grate iron bell trap cesspools	3.00	100.00	100.00	20.00
60,000 lbs. miscellaneous iron castings	.07	.10	.075	.07
60,000 duct ft. terra cotta ducts	.12	.15	.16	.15
10,000 duct ft. relocating city ducts and conduits	.12	1.00	1.20	.50
Structural steel:				
1,117,000 lbs. (a) steel columns	.06	.064	.055	.07
1,086,000 lbs. (b) steel I beams used as columns	.06	.064	.055	.07
3,438,000 lbs. (c) steel I beams and channels in roofs and floors	.06	.064	.055	.07
580,000 lbs. (d) riveted plate or lattice girders	.06	.064	.055	.07
340,000 lbs. (e) riveted struts and miscellaneous steel work	.06	.064	.055	.07
55,000 lbs. (f) tie rods, bolts, nuts, washers, dowels and anchor bolts	.06	.064	.055	.07
100 net tons interlocking steel sheet piling	100.00	100.00	200.00	120.00
Steel-pipe piles:				
100 vt. ft. (a) 12-inch	6.00	5.50	8.00	8.00
1,000 vt. ft. (b) 15-inch	8.00	6.00	9.00	10.00
1,250,000 lbs. steel reinforcing rods and bars	.06	.045	.07	.065
5,000 lbs. steel wire forms and anchors	.20	.08	.30	.20
2,000 sq. ft. steel ventilating gratings	.20	2.00	1.60	3.50
20,000 sq. ft. painting steel work	.01	.05	.10	.10
2,800 sq. ft. safety treads	2.50	1.50	1.30	1.50
3,000 sq. ft. vault lights	1.50	1.50	1.20	1.75
Cartway paving:				
350 sq. yds. (a) asphalt	3.00	5.00	4.00	4.00
2,000 sq. yds. (b) wood block	4.00	5.75	4.00	4.50
6,300 sq. yds. (c) granite block	4.00	4.50	4.00	4.00
100 sq. yds. (d) vitrified block	3.30	5.00	4.00	4.50
Sidewalk repaving:				
3,000 sq. yds. (a) granolithic	1.80	1.50	3.70	2.50
100 sq. yds. (b) brick	1.00	2.50	3.70	2.50
2,300 sq. yds. (c) flagstone	1.00	2.00	3.70	2.50
Curbing:				
200 lin. ft. (a) 6-inch straight granite	1.50	2.00	1.50	2.00
500 lin. ft. (b) 8-inch straight granite	2.30	2.60	2.40	2.50
100 lin. ft. (c) 6-inch curved granite	2.40	3.00	3.00	3.50
200 lin. ft. (d) 8-inch curved granite	2.70	3.50	4.00	4.00
500 lin. ft. (e) steel edge concrete	1.25	1.50	1.00	1.00
3,500 lin. ft. resetting curb	.25	1.00	.40	.30
$25,000 force account	30%	20%	30%	30%

For Contract No. 203, subway and stations in Locust St. from west of Eighth St. to east side of Broad St.:

	(a)	(b)	(c)	(d)
135,000 cu. yds. excavation above elevation zero	$3.90	$4.65	$4.25	$6.00
2,500 cu. yds. excavation below elevation zero	7.00	5.50	4.25	6.60
100,000 ft. B. M. yellow pine lumber, per 1000 ft. B. M.	40.00	125.00	100.00	50.00
Underpinning buildings:				
Lump sum (a) northeast corner Broad and Locust Sts.	47,250.00	48,000.00	75,000.00	50,000.00
Lump sum (b) Hotel Walton	16,000.00	9,600.00	10,000.00	20,000.00
3,618 ft. front (c) buildings, 5 stories or less in height	60.00	50.00	100.00	55.00

(*Continued on page* 112)

BIDS DESIRED

Brooklyn, N. Y.—Until Mar 5 by Pub. Serv. Comn. (Oscar S. Straus, chmn.), 120 Broadway, New York City, for relocating and reconstructing part of Nassau Electric RR., on New Utrecht Ave., from 30th to 81st Sts.

Lake Toxaway, N. C.—Until Mar. 10 (change of date) by Jerome Moltz, care R. S. Brown, ch. engr., Asheville, for grading roadbed of about 6 miles of standard gage logging from junction with Southern Ry. here, to Cold Mt. Gap; advertised in this issue.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Delmont, Pa.**—Contract awarded by Pennsylvania RR. (Alex. C. Shand, Broad St. Sta., Philadelphia) for construction of railroad about 8 miles long from Delmont to Saltsburg, to P. McMannus, contr., Commercial Terminal Bldg., Philadelphia.

★**Baltimore, Md.**—Contract awarded by Bd. of Awards for rails, switches and appurtenances for Municipal Ry. on the third section of Key Highway to Bethlehem Steel Co., South Bethlehem, at $14,000.

★**Purcell, Okla.**—Contract awarded by Santa Fe Ry. Co. for about 3 miles of line near here to Cameron, Joyce & Co., Kansas City. Contract calls for 75,000 cu. yd. of earth.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK

Portland, Me.—Reported Grand Trunk RR. (H. R. Stafford, ch. engr.), Montreal, Que., will expend $1,000,000 in enlarging steamship and railway terminal and extend piers; also enlargement of Grand Trunk elevators.

Pawtucket, R. I.—Reported McKenzie-McKay Co. will erect 3-story, 60 x 100-ft. addition to its plant to cost about $100,000.

Hartford, Conn.—Hartford Industrial Development Co. will erect 4-story, 50 x 317 ft., brick factory with 1-story, 64 ft. sq., for use of Underwood Computing Machine Co.

Buffalo, N. Y.—Lehigh Valley RR. Co., E. B. Ashby, ch. engr., New York, plans spending $1,000,000 for additional roundhouse facilities here.

Jamestown, N. Y.—Reported Chautauqua Worsted Mills have increased their capital stock $150,000 and plan extending floor space about 50,000 sq. ft., and in the spring will purchase new machinery.

New York, N. Y.—Stern & Saalberg Co., 416 W. 45th St., will erect 7-story, 50 x 100 ft., factory at 416 W. 45th St. to cost $90,000. Buchman & Fox, archts., 30 E. 42nd St., New York.

Bradley Beach, N. J.—Reported Hurst Aircraft Corporation will erect plant along Shark River and build "movable wing" aeroplanes, to cost $125,000. Address W. C. Hurst, 506 3d Ave., Bradley Beach.

Harrison, N. J.—Crucible Steel Co. will erect 1-story 156 x 700-ft. brick and steel addition to plant between 4th and 6th Sts., to be used as hammer shop and cost $400,000.

South Bethlehem, Pa.—Preliminary plans were prepared for erecting addition to plant of Silvex Co., to increase present capacity about 75,000 plugs per day. Edward H. Schwab, pres.

Swissville, Pa.—Union Switch & Signal Co. will rebuild plant recently destroyed by fire with loss of $400,000; new plant will cost $500,000.

Gastonia, N. C.—A. M. Smyre Mfg. Co. (J. Lee Robinson, pres.), recently incorporated with capital stock of $250,000 and will erect 10,000-spindle yarn plant. Work to begin in 60 days.

Orangeburg, S. C.—See "Reinforced Concrete."

Birmingham, Ala.—Davis & Allcott Co. (W. B. Davis, Attalla, Ala., pres.) plans erecting hosiery mill to cost $50,000.

Shreveport, La.—Until Mar 15 by Council for erecting meter house. Address Leon I. Kahn., comr. pub. utilities.

Covington, Ky.—Reported city authorities plan erecting municipal electric light plant to cost about $200,000.

Louisville, Ky.—Louisville Industrial Foundation forming veneer and panel concern to erect a compound lumber plant, 280 x 430 ft., cost $150,000, on B'way between 28th and 29th Sts. on K. & I. RR.

Newport, Ky.—Plans being prepared by Tietig & Lee, 901 4th Nat'l Bank Bldg., Cincinnati, O., for erecting extensions and additional facilities for machine shop, blacksmith and generating shop for Newport Rolling Mill Co., to cost about $60,000.

Canton, O.—Reported Gilliam Mfg. Co. plans erecting 222 x 62-ft. brick and steel factory building at 1919 Navarre road S. W., to cost $50,000.

Cincinnati, Ohio.—Trustees of Cincinnati Southern RR. planning with other railroads and civic organizations for issuing $20,000,000 worth of bonds for erecting union passenger and freight terminals.

Cleveland, O.—Briggs Mfg. Co. purchased site at 12815 Taft Ave. and will erect 4-story, 204 x 96-ft. additional factory building to cost $90,000.

Columbus, O.—Plans being prepared by Stribling & Lum for erecting 130 x 230-ft. concrete, brick and steel plant for Columbus Mill & Mine Supply Co., on Marion Road, to cost about $75,000.

W. E. Lamneck & Co., 162 W. Naughton St., incorporated for $100,000, purchased site in 5th Ave., west of Hocking Valley RR., and will erect new 2-story, 135 x 120-ft. building.

Chicago, Ill.—Peoples Gas Light & Coke Co., 122 S. Michigan Blvd., plans erecting gas plant consuming 1,500,000 tons of coal annually, to cost $5,000,000.

Milwaukee, Wis.—Mi-Lola Cigar Co. (A. C. Kurz, pres.) plans erecting 4-story factory building at 337 4th St., to cost $50,000.

Milwaukee, Wis.—Chicago, Racine & Milwaukee boat line will erect warehouse to cost $380,000.

Sheffield, Ia.—Reported brick and tile factory will be erected by company being formed and will cost $250,000. C. L. Smith reported interested.

Howard Lake, Minn.—International Linen Ginning Co. plans erecting factory to cost $55,000; also shed 500 ft. long.

Minneapolis, Minn.—Dr. C. N. Meyer, Mankato, organized company to erect plant here for manufacturing paper out of straw; cost $60,000.

St. Paul, Minn.—Reported Great Northern R.R. (A. H. Hogeland, ch. engr., St. Paul) has purchased site at 10th and Plove Sts. and will erect warehouse and terminal building to cost $150,000.

St. Paul, Minn.—Reported Northern Star Rubber Co., New York Life Bldg., plans erecting factory building in Midway district to cost from $175,000 to $250,000.

St. Paul, Minn.—Plans being prepared for erecting plant in St. Paul Transfer District for the North Star Rubber Co. (J. P. Spillane, pres.), N. Y. Life Bldg.; incorporated for $250,000.

Billings, Mont.—Northern Pacific Ry. Co., St. Paul, will erect addition to freight house here to cost $50,000.

Sedalia, Mo.—See "Reinforced Concrete."

El Paso, Tex.—Reported V. E. Ware, El Paso, plans erecting warehouse and factory to cost about $95,000.

Astoria, Ore.—See "Reinforced Concrete."

Astoria, Ore.—Plans being prepared for erecting 3-story, 40 x 80-ft. plant for Astoria Soap Co. on site at 21st and Exchange Sts., to cost about $60,000.

Bend, Ore.—A. M. Pringle and D. Sphier, local, plan erecting brick business block to cost $50,000.

Heppner, Ore.—See "Reinforced Concrete."

Salem, Ore.—Reported Charles K. Spaulding Logging Co. (Charles K. Spaulding, Mgr.), plans erecting paper mill on site recently purchased from Salem Flour Mills Co. to cost $600,000.

The Dalles, Ore.—Plans being prepared for erecting 4-story, 120 x 180-ft. jelly factory and storeroom, and offices for Wettenberg-King Co., to cost about $50,000.

Martinez, Cal.—Reported the Shell Refinery plans erecting $500,000 addition to plant this year.

San Francisco, Cal.—See "Foundations, Piers and Dams."

San Francisco, Cal.—Reported Crockett Sugar Refinery (George M. Rolph, gen. mgr.), 230 California St., will erect addition to present plant to cost about $2,500,000.

(*Continued from page* 111)

138 ft. front (d) buildings, over 5 and less than 10 stories in height	100.00	58.00	200.00	80.00
500 cu yds. (f) additional masonry for underpinning	20.00	8.00	1.00	10.00
Concrete masonry:				
50 cu. yds. (a) Class A-1:1½:3	12.00	40.00	15.00	14.00
29,000 cu. yds. (b) Class B-1:2:4	10.60	11.50	13.00	13.00
1,600 cu. yds. (c) Class C-1:3:6	9.80	11.00	12.00	12.00
200 cu. yds. (d) Class D-1:4:8	9.00	10.50	10.00	11.00
4,000 sq. ft. reinforced concrete sheathing	.50	1.00	2.00	2.00
800 cu. yds. brick masonry	12.00	25.00	25.00	18.00
200 cu. yds. hollow terra cotta brick masonry	15.00	25.00	25 00	18.00
200 cu. yds. rubble masonry	3.00	15.00	8.00	9.00
1,000 sq. yds. vitrified shale brick sewer lining	1.50	2.50	2.75	3.00
50 sq. yds. granite block sewer lining	2.50	3.00	2.75	3.00
Building new manholes and wellholes:				
18 manholes (a) manholes	50.00	130.00	200 00	150.00
600 vt. ft. (b) wellholes	7.00	12.00	15.00	9.00
Building new inlets:				
1 inlet (a) No. 1 inlet	100.00	250.00	200.00	150.00
3 inlets (b) No. 2 inlet	100 00	250.00	190 00	140.00
1 inlet (c) No. 3 inlet	100.00	250 00	180.00	125.00
1 inlet (d) No. 4 inlet	50.00	250.00	170.00	115.00
Taking out and rebuilding inlets:				
17 inlets (a) having standard pattern casting	35.00	225.00	200.00	125.00
16 inlets (b) having old pattern casting to be replaced by standard	35.00	240.00	190.00	150.00
Flagstones:				
100 sq. ft. (a) 2-inch thickness	.30	.50	.60	.30
300 sq. ft. (b) 4-inch thickness	.50	.80	1.20	.50
100 sq. ft. (c) 6-inch thickness	.75	1.20	1.80	.75
100 cu. yds. dry rubble masonry or riprap	2.00	15.00	7.50	6.00
200 cu. yds. broken stone or gravel for drains	2.00	2.00	3.75	2.50
1,000 bags cement, cement grout	1.25	1.00	1.30	1.00
5,100 sq. yds. granolithic finish	.75	1.50	2.20	1.75
Fabric waterproofing:				
2,000 sq. yds. (a) 1-ply	.70	1.00	.95	.90
1,000 sq. yds. (b) 2-ply	1.10	1.25	1.75	1.20
100 sq. yds. (c) 3-ply	1.50	1.50	2.55	1.50
100 sq. yds. (d) 4-ply	1.80	2.00	3.55	1.80
2,000 sq. yds. 1-ply dry roofing felt	.30	.40	.80	.75
12,500 sq. yds. asphaltic mastic waterproofing	1.60	2.00	1.75	2.50
800 cu. yds. brick in waterproofing compound	28.00	35.00	29.00	30.00
Vitrified clay pipe:				
1,500 lin. ft. (a) 4-inch	.30	.40	.40	.40
3,600 lin. ft. (b) 5-inch or 6-inch	.50	.50	.50	.50
500 lin. ft. (c) 8-inch or 10-inch	.50	1.00	.75	.60
1,440 lin. ft. (d) 12-inch	1.00	1.25	1.00	.80
1,600 lin. ft. (e) 15-inch or 18-inch	3.00	1.60	1.50	1.00
50 lin. ft. (g) 24-inch	5.00	3.00	2.40	1.50
Extra heavy cast-iron soil pipe:				
300 lin. ft. (a) 3-inch	.50	2.00	.90	.50
500 lin. ft. (b) 4-inch	.50	2.00	1.20	.80
2,000 lin. ft. (c) 5-inch	.70	2.50	1.50	1.00
2,700 lin. ft. (d) 6-inch	1.00	2.50	1.80	1.25
Cast-iron pipe furnished:				
65 net tons (a) bell and spigot straight, per 2000 lbs.	50.00	90.00	60.00	60.00
10 net tons (b) bell and spigot specials, per 2000 lbs.	90.00	120.00	120.00	110.00
Laying or removing cast-iron pipe:				
50 net tons (a) bell and spigot pipe and specials, per 2000 lbs.	12.00	60.00	40.00	50.00
Bell end water gate valves:				
1 valve (d) 16-inch gate valve	125.00	175.00	160.00	180.00
3 valves (e) 12-inch gate valve	65.00	90.00	120 00	100.00
5 valves (f) 10-inch gate valve	50.00	75.00	100.00	72.00
5 valves (g) 8-inch gate valve	40 00	40.00	80.00	50.00
5 valves (h) 6-inch gate valve	35.00	30.00	60.00	30.00
1,000 lbs. wrought-iron or steel pipe, any size	.08	.10	.075	.15
Wrought iron or steel pipe conduit:				
4,000 lin. ft. (a) ¾-inch or 1-inch enameled conduit	.20	.25	.25	.30
1,000 lin. ft. (b) 1¼-inch or 1½-inch enameled conduit	.30	.60	.35	.36
500 lin. ft. (c) 2½-inch galvanized conduit	.60	.70	.65	.60
3,000 lin. ft. (d) 3-inch galvanized conduit	.70	.80	.80	.90
500 lin. ft. (e) 3½-inch galvanized conduit	.80	1.00	.95	1.10
25 cesspools, 10-inch grate iron bell trap cesspools	3.00	100.00	100.00	20.00
50,000 lbs. miscellaneous iron castings	.07	.10	.075	.07
60,000 duct. ft. terra cotta ducts	.12	.15	.16	.15
5,000 duct ft. relocating city ducts and conduits	.12	1.00	1.20	.50
Structural steel:				
850,000 lbs. (a) steel columns	.06	.065	.06	.0675
418,000 lbs. (b) steel I beams used as columns	.06	.065	.06	.0675
2,026,000 lbs. (c) steel I beams and channels in roofs and floors	.06	.065	.06	.0675
1,550,000 lbs. (d) riveted plate or lattice girders	.06	.065	.06	.0675
100,000 lbs. (e) riveted struts and miscellaneous steel work	.06	.065	.06	.0675
50,000 lbs. (f) tie rods, bolts, nuts, washers, dowels and anchor bolts	.06	.065	.06	.0675
100 net tons interlocking sheet steel piling, per 2000 lbs.	100.00	100.00	200.00	120.00
Steel pipe piles:				
100 vt. ft. (a) 12-inch	4.00	5.50	8.00	8 00
1,000 vt. ft. (b) 15-inch	6.00	6.00	9.00	10.00
750,000 lbs. steel reinforcing rods and bars	.06	.045	.07	.065
5,000 lbs. steel wire forms and anchors	.20	.08	.30	.20
2,000 sq. ft. steel ventilation gratings	.20	2.00	1.60	3.50
20,000 sq. ft. painting steel work	.01	.05	.10	.10

2,500 sq. ft. safety treads	2.50	1.50	1.30	1.50
3,000 sq. ft. vault lights	1.50	1.50	1.20	1.75
Cartway paving:				
5,500 sq. yds. (a) asphalt	3.00	4.50	4.00	4.00
1,600 sq. yds. (b) wood block	4.00	5.75	4.00	4.50
1,375 sq. yds. (c) granite block	4.00	5.00	4.00	4 00
100 sq. yds. (d) vitrified block	3.30	5.00	4.00	4.50
Sidewalk repaving:				
6,000 sq. yds. (a) granolithic	1.80	1.50	3.70	2.00
100 sq. yds. (b) brick	1.00	2.50	3.70	2 00
250 sq. yds. (c) flagstone	1.00	2.00	3.70	2.50
Curbing:				
200 lin. ft. (a) 6-inch straight granite	1.50	2.00	1.50	2.00
500 lin. ft. (b) 8-inch straight granite	2 30	2.60	2 40	2 50
100 lin. ft. (c) 6-inch curved granite	2.40	3 00	3.00	3 50
200 lin. ft. (d) 8-inch curved granite	2.70	3.50	4.00	4 00
500 lin. ft. (e) steel edge concrete	1.25	1.50	1.00	1.00
4,000 lin. ft. resetting curb	.25	1.00	.40	.30
3,100 lbs. copper strips for sewer joints	.50	1.00	.80	.30
$25,000 force account	30%	20%	30%	30%

Toronto, Ont.—Reported a munitions plant will be erected at Ashbridges Bay, Toronto, for Imperial Munitions Bd. of Ottawa, and will cost $3,000,000.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**East Salamanca, N. Y. (Salamanca P. O.)** — Contract awarded Westinghouse, Church, Kerr & Co., 37 Wall St., New York City, for erecting addition to machine shops and power plant for Buffalo, Rochester & Pittsburgh Ry. Co. (E. F. Robertson, Ch. Engr., Rochester). Total expenditure $200,000.

New York, N. Y.—See "Reinforced Concrete."

Kearny, N. J.—See "Foundations, Piers and Dams."

★**Trenton, N. J.**—Reported contract awarded by Westinghouse Lamp Co. to Stone & Webster Eng. Corp., site on Pennington Ave., west of Philadelphia & Reading Ry. Co. freight station and will erect $1,000,000 plant on it.

★**DuBois, Pa.**—Contract awarded Westinghouse, Church, Kerr & Co., 37 Wall St., New York City, for erecting here an addition to locomotive terminal of Buffalo, Rochester & Pittsburgh Ry. Co. (D. S. Watkins, Eng. Constr., DuBois.)

★**Philadelphia, Pa.**—See "Reinforced Concrete."

★**Pierceton, Ind.**—Contract awarded by Bd. Educ. to Stephen Parcels, Rochester, for erecting consolidated grade and high school building to cost $50,000. Mahurin & Mahurin, archts., Ft. Wayne.

BUILDINGS
Public and Private

PROPOSED WORK

Lewiston, Me.—Plans being prepared by Coolidge & Carlson, 89 State St., Boston, for erecting 3-story Men's Union Bldg., to cost $100,000, for Bates College. Prof. Geo. C. Chase, pres., 16 Frye St.

Dorchester, Mass.—Staller & Norman will erect theater and business block at Blue Hill and Woodrow Aves., to cost $150,000.

New Bedford, Mass.—Contract will soon be let for erecting 1-story, 140 x 200-ft. primary and grammar school building to cost $150,000. Louis E. Destremps, archt., Theater Bldg., Union St.

Northampton, Mass.—Smith College Trustees plan erecting infirmary building at cost of $100,000.

Bridgeport, Conn.—See "Roads and Paving."

Chateaugay, N. Y.—Plans were completed by D. D. Kieff, 17 Flower Bldg., Watertown, N. Y., for erecting 1½-story church to cost $75,000, for St. Patrick's R. C. Church. Rev. Father J. Dean, pastor, W. Main St.

New York, N. Y.—Plans filed by Renwick, Aspinwall-Tucker, 8 W. 40th St., for erecting 8-story 32 x 100 ft. sales rooms for Euphemia S. Coffin, 13 W. 57th St., to cost $60,000; by Hy. O. Chapman, 334 5th Ave., for erecting 11-story 65 x 100 ft. show rooms for Dreicer Realty Co., 560 5th Ave., to cost $225,000.

Atlantic, City, N. J.—Plans being prepared by Stout & Riebenack, Atlantic City, for erecting brick and stone addition to school No. 1 to cost $50,000.

Plans being prepared for erecting addition to schol building to cost $50,000. Stout & Rienbenack, archts., Atlantic City.

Bayonne, N. J.—Public Service Electric Co. purchased site at B'way and 36th St. and will erect 3-story office building to cost $75,000.

Bayonne, N. J.—Public Service Corp., Newark, will erect 3-story building to cost $75,000 at Broadway and 36th St., here.

Bayonne, N. J.—Bayonne Hospital (Dr. Lucius F. Donohoe) announces it will erect an addition in the early spring to cost $100,000.

Bayonne, N. J.—Plans were completed for erecting school building for 3rd ward at 47th St. and Hudson Blvd., to cost $300,000.

East Orange, N. J.—City plans erecting city hall recently purchased on N. Walnut St. back of present city hall. Structure will cost about $200,000.

Freehold, N. J.—Special election will be held Feb. 26 for issuing $100,000 bonds for erecting high school. Address John Enright, 39 Court St.

Hoboken, N. J.—State Bd. Educ. will erect school building No. 3 to cost about $200,000.

Jersey City, N. J.—National Corporation will erect 4-story brick apartment building to cost $56,000 between Ege and Virginia Aves.

Roman Catholic Churches of North Hudson section of state plan erecting Catholic Hospital to cost about $150,000. Wm. F. Burke reported interested.

Kearny, N. J.—Seaboard By-Products Coke Co., Jersey City, plans erecting laboratory, office and service building additions to plant on Hackensack River here to cost about $50,000.

Millville, N. J.—Plans being prepared by Bd. Educ. for erecting school buildings to cost $100,000.

Millville, N. J.—Municipal League (H. Waltman, secy.), have urged legislature to appropriate $300,000 for erecting new State Normal School building in South Jersey. R. R. Sheppard, Assemblyman, Haleyville.

Newark, N. J.—Revised plans prepared by McKim, Mead & White, 101 Park Ave., New York, for erecting proposed memorial building at Broad and Pennington Sts. for Newark Museum Assoc., and to cost about $1,000,000.

Paterson, N. J.—Plans being prepared by H. B. Crosby, First Nat'l Bank Bldg., for erecting 36-room school building to cost $275,000 for Bd. Educ.

Plainfield, N. J.—Edson J. Martin plans erecting apartment house at E. Front and Church Sts. to cost $80,000.

Trenton, N. J.—Reported state will erect dining hall at state prison to cost about $50,000.

Wildwood, N. J.—A corporation plans erecting hotel along beach front to cost $1,000,000. Address H. F. Greaves, Wildwood.

Wildwood, N. J.—Bd. Trade (Philip P. Baker, Pres.), plans erecting hotel to cost about $1,000,000.

Berwick, Pa.—Plans being prepared by Act. Superv. Archt. Jas. A. Wetmore, Treasury Dept., Washington, D. C., for erecting U. S. postoffice here to cost $80,000.

Chester, Pa.—Plans being prepared by J. T. Wendriun, Commonwealth Bldg., Philadelphia, for erecting building at Chester Hospital; to cost about $75,000.

Coatesville, Pa.—Plans were completed by Maginnis & Slawter, National Bank Bldg., for erecting 1-story, 150 x 60-ft. theater building to cost $60,000, for W. S. G. Cooks.

Easton, Pa.—Easton Cemetery Co. will erect granite mausoleum to cost $50,000.

Easton, Pa.—Directors of Easton Cemetary Co. voted to erect Mausoleum to cost $50,000.

Ivy Rock, Pa.—Plans being prepared by Savery & Scheetz, St. Girard Bldg., Philadelphia, for erecting 2-story 47 x 172-ft. office building for Alan Wood Iron & Steel Co., to cost about $50,000.

Johnstown, Pa.—Plans being prepared by Bd. Educ. for erecting high school building to cost $200,000.

Philadelphia, Pa.—Salvation Army, 1224 Parish St., will erect executive office building hotel, citadel and day nursery, all to cost $400,000. Col. R. E. Holz, principal commander.

Plans were completed for erecting addition to Pennsylvania RR. station (Alex C. Shand, ch. engr., Broad St. Station), at Broad St. and Glenwood Ave., and also plans for passenger and freight station at Hartley, Del.

Pittsburgh, Pa.—Directors of Rochester General Hospital will soon let contract for erecting addition to institution to cost $90,000 to $100,000.

Red Lion, Pa.—Plans are completed by John B. Hamme, Weist Bldg., York, Pa., for erecting 2-story, 100 x 145-ft. Sunday school and church building to cost $80,000 for United Evangelist Church. J. T. Pettit, pastor.

Yeadon, Pa.—Reported Bd. Educ. (G. E. Gapp, secy.) will erect 3-story brick high school building to cost $65,000. P. A. Davis, archt., Presser Bldg., Philadelphia.

Wilmington, Del.—Bd. Educ. planning for appropriation of $100,000 a year for five years, for erecting new school building every year for five years.

Directors, Physicians and Surgeons Hospital plans erecting addition to cost about $110,000.

Baltimore, Md.—Plans being prepared by Baldwin & Pennington, Professional Bldg., for erecting addition and altering bank building of German Bank of Baltimore (Aug. Web, pres.); cost between $100,000 and $150,000.

Petersburg, Va.—Plans were completed by Ferguson, Calrow & Wrenn, Va. Bank Bldg., Norfolk, Va., for altering bank building of National Bank of Petersburg (T. F. Heath, pres.), Sycamore and Tebb Sts., to cost $60,000.

Bluefields, W. Va.—Plans being prepared by C. C. & E. A. Weber, Citizens Nat'l Bank Bldg., Cincinnati, O., for erecting arcade and theater building to cost about $100,000 for S. L. Matz.

Augusta, Ga.—Reported bonds for $100,000 for school building will be sold Apr. 3 by Lawton B. Evans, secy. bd. educ.

Jacksonville, Fla.—Reported bonds for $250,000 for school building in Duval Co. will be sold Mar. 17. F. A. Hathaway, secy. co. bd. pub. instruction.

Hammond, La.—Contract will soon be let for erecting U. S. Post Office here to cost $50,000.

New Orleans, La.—Plans being prepared by Sam Stone, Jr., L. & L. & G. Bldg., for erecting 5-story addition to St. Charles Hotel.

Plans being prepared by Rosenthal & Grosz, Denegre Blk., for erecting new hotel with 250 rooms.

Kingsport, Tenn.—Reported Mark W. Potter, Pres. Carolina, Clinchfield & Ohio RR., O. K. Morgan, engr. in charge, Johnstown, agreed to appropriate $50,000 for erecting passenger station to replace one recently destroyed by fire.

Maryville, Tenn.—School bonds for $50,000 will be sold Mar. 15, by George D. Roberts, city clk.

Ashland, Ky.—Contract will soon be let for erecting 3-story and basement high school building to cost $100,000. Frank L. Packard, archt., 1212 Hayden Bldg., Columbus, O.

Akron, O.—Reported building and equipment bonds for $50,000 will be sold Mar. 5 by James McCausland, co. aud.

Bedford, O.—School bonds for $50,000 will be sold Feb. 28 by Ella Senter, village clk.

Kenmore, O.—School bonds for $60,000 will be sold Mar. 9 by I. N. Fiscus, clk. bd. educ.

Lancaster, O.—Bonds for $250,000 will be sold Mar. 15 by Bd. Educ. (W. A. Thompson, clk.) for erecting and enlarging school building.

New Vienna, O.—Bonds for $70,000 will be sold Mar. 1 by Bd. Educ. (C. N. Carey, clk.) for erecting and furnishing school building.

Portsmouth, O.—School bonds for $67,000 will be sold Mar. 2 by William C. Hazlebeck, clk. bd. educ.

Rawson, O.—School bonds for $60,000 will be sold Mar. 1 by C. O. Myers, clk. bd. educ.

Wooster, O.—School bonds for $50,000 will be sold Mar. 7 by H. H. Miller, clk. bd. educ.

Anderson, Ind.—Plans being prepared by C. D. McLane, 301 Robinson Bldg., for erecting 3-story and basement lodge building to cost $100,000 for Elk Lodge (F. F. Barr, secy., 1031 Main St.).

French Lick, Ind.—Plans being prepared by M. J. Roche Bldg. Co., 609 Johnston Bldg., Cincinnati, for erecting addition to French Lick Springs Hotel to cost about $500,000.

Mishawaka, Ind.—Contract will soon be let for erecting 5-story and basement, 46 x 73-ft. bank and office building to cost $120,000 for Mishawaka Trust & Savings Co. (Stanley McIntosh, pres.).

Adrian, Mich.—Plans were prepared by Osgood & Osgood, Herald Bldg., Grand Rapids, Mich., for erecting 4-story, 100 x 70-ft. Masonic Temple to cost $60,000. C. E. Dibble, chmn. bldg. com., 13 E. Butler St.

Flint, Mich.—Plans were prepared by Geo. J. Bachman, 302 S. Saginaw St., for erecting temple, store and office building to cost $100,000, for Fraternal Order of Eagles, Anwanaga Block.

Danville, Ill.—Plans being prepared by Muncie & Jensen, 39 S. La Salle St., Chicago, for erecting 10 or 12-story bank and office building to cost between $150,000 and $175,000, for First National Bank. C. P. Walrad, pres., Vermillion and Main Sts., Danville.

Milwaukee, Wis.—Plans completed by Martin Tulgren & Sons for erecting 4-story brick and concrete apartment house at 567 Stowell Ave., to cost $65,000 for Brachman Investment Co., First Nat'l Bank Bldg.

Oshkosh, Wis.—Plans being prepared by Henry Auler, Oshkosh, for erecting Punhoqua school building of brick, hollow tile construction, to cost $50,000.

Superior, Wis.—Douglas Co. Bd. Supervs. ordered Feb. 9, issuance of $350,000 bonds for erection of new courthouse.

Aplington, Ia.—Bond issue of $50,000 has been sold for erecting school buildings.

Pella, Ia.—Women's Federated Clubs are selling stock to erect hospital building to cost $50,000.

Albert, Minn.—Legislature appropriated $50,000 for erection of U. S. Postoffice here.

Hamlin, Minn.—State Fair Bd. (John C. Simpson, secy.) has asked legislature for appropriation of $50,000 for repairs and new buildings for fair grounds.

Minneapolis, Minn.—International Christian Bible College, University and Fifteenth Aves., will erect addition and improve structure with $50,000 donated by J. E. and A. Leverton.

St. Paul, Minn.—Plans were completed by C. S. Frost, 321 Capitol Bank Bldg., and submitted to City Council and State Railway and Warehouse Commission for approval for erecting union depot to cost about $11,000,000.

Kansas City, Kan.—Reported court house bonds for $400,000 will be sold Mar. 6, by F. M. Holcomb, co. clk.

Omaha, Neb.—Plans being prepared by Burd F. Miller, 352 Brandeis Theater Bldg., for erecting apartment building of brick and hollow tile construction, to cost $50,000, for Dr. D. T. Quigley.

Omaha, Neb.—Plans were completed by H. D. Frankfurt, Bee Bldg., for erecting brick store and apartment building to cost $50,000 for L. J. Morgolin, 2626 Seward St.

Sutton, Neb.—Reported New York Agriculture Society has purchased one-half block site and will erect community building to cost $50,000.

Butte, Mont.—Plans being prepared by Jesse M. Warren, Daly Bank Bldg., for erecting hotel building to cost $100,000 for Ben Bank Realty Co.

Plan being prepared by Floyd Hammil, Hibour Bldg., for erecting proposed $100,000 Deaconess Hospital (J. H. Mitchell, financial secy.), Owsley Block.

Springfield, Mo.—Plans being prepared by Carl Boller & Co., 7-8 Gaiety Theater Bldg., Kansas City, Mo., for erecting 2-story and basement, 100 x 115-ft. theater building to cost $75,000, for Grubel Bros.

Waco, Tex.—Reported Sanger Bros. will erect 3-story 200 x 165 ft. building to cost $100,000.

Nowata, Okla.—Bond issue of $50,000 for erecting school buildings carried; address Bd. Educ.

Sullivan, Ind.—Reported desired until Apr. 10, by Co. Hospital Bd., for erecting county hospital.

Oklahoma City, Okla.—Robert A. Rogers plans erecting flat building on 5th and Robinson Sts. to cost $200,000.

Sapulpa, Okla.—Bd. Educ. will call another election to vote in $150,000 bond issue for erecting high school building.

Everett, Wash.—Bd. Educ. plan erecting school building to cost $50,000 and have commissioned B. F. Turnbull to draw plans.

North Yakima, Wash.—Plans being prepared for the erection of $100,000 theater building opposite Federal Bldg., with seating capacity of 2000, for Frederick Mercy.

Seattle, Wash.—Plans were completed by V. W. Voorhees, Inc., Eitel Bldg., Seattle, for erecting 5-story 60 x 120-ft. brick and mill apartment house at 5th ave. and Lenora St., for G. W. Graaf, to cost $70,000.

Spokane, Wash.—Bd. Educ (Dr. C. F. Eikenbary, pres.) will expend between $70,000 and $80,000 for erecting 2-story wing to North Central High School.

Plans prepared by A. W. Cowley for erecting 4-story garage at 1st and Walnut Sts. for Overland-Pacific Automobile Co., work to begin March 1; cost $150,000.

La Grande, Ore.—Reported LaGrande Meat Co. plans erecting Loftus Block and 3-story and basement fireproof white brick exterior theater and business building to cost about $60,000.

Portland, Ore.—Plans being prepared by W. W. Lucius and Chas. B. Martin, associate archts., Lewis Bldg., for erecting 2-story and basement with mezzanine floor 85 x 140 ft., of brick, concrete and wood clubhouse to cost $100,000 for Laurelhurst Club, to be built in Laurelhurst Addition.

Fresno, Cal.—Reported Radin & Kamp Dept. Store Co. (H. Radin) plan erecting 8-story store and office building on site of old Grand Central Hotel, Mariposa and J Sts.

Santa Barbara, Cal.—Reported C. K. G. Billings has purchased site and plans erecting home to cost $1,000,000.

Tucson, Ariz.—Plans being prepared by John Parkinson, 420 Title Insurance Bldg., Los Angeles, for erecting Geronimo Hotel Building for H. T. Grier and S. J. Buckingham, Tucson, to cost about $400,000.

Caldwell, Idaho.—Erection of high school building will be started soon as bond issue of $60,000 recently voted is disposed of.

Sandpoint, Idaho.—Election to vote on $75,000 high school bonds postponed indefinitely. E. S. Rowe, secy.

BIDS DESIRED

Ridgefield Park, N. J.—Until Mar. 2 by Bd. Educ. of Bergen Co., at Washington Irving School, Euclid Ave. and Hobart St., for constructing high school building in Overpeck Township. Ernest Sibley, archt., Palisade, N. J.

Erie, Pa.—Until Feb. 27 (extension of date) by Bd. Educ. (W. J. Flynn, bus. mgr.) for erecting high school building; cost $350,000 also grade school, 2-story and basement, cost $200,000. W. B. Ittner, archt., Bd. Educ. Bldg., St. Louis, Mo.

Ripley, W. Va.—Until about Aug. 1 (change of date) for remodeling court house, 3-story and basement, 51 x 71 ft., cost about $50,000. L. J. Dean, Foster Bldg., Huntington, archt.

Bogalusa, La.—Until Mar. 6 by city for erecting new city hall, 6 schoolhouses and city jail.

Holly Springs, Miss.—Until Mar. 23 by Jas. A. Wetmore, superv. archt., Treas. Dept., Washington, D. C., for erecting U. S. post office building.

Cincinnati, O.—Until Mar. 21, by Comrs. Hamilton Co., Court House, for erecting, including heating, plumbing, ventilating, electric work, etc., new women's receiving cottage for Longview Hospital; work includes erection of power plant connected with building; Elzner and Anderson, archts., Ingalls Bldg., Cincinnati.

Coshocton, O.—Until Mar. 29 by Jas. A. Wetmore, superv. archt., Treas. Dept., Washington, D. C., for erecting U. S. post office building.

Sioux City, Ia.—Reported desired until Mar. 2 by J. M. Whittemore, pres. bd. library trustees, for erecting Leeds branch library building. E. L. Tilton, archt., 52 Vanderbilt Ave., New York City.

Oskaloosa, Ia.—Until Feb. 28, by gen. bldg. com., Penn College, for constructing women's dormitory building; also for heating, plumbing and ventilating for general groups of buildings now being constructed. A. T. Simmons, archt., First National Bank Bldg., Bloomington, Ill.

Until Mar. 16, by L. T. Shangle, secy. bd. educ., for erecting addition and alterations to high school building. Proudfoot, Bird & Rawson, archts., 810 Hubbell Bldg., Des Moines.

Paola, Kan.—Until Feb. 27 (new date), by Bd. Educ. (E. K. Thompson, clk.), for erecting 2-story and basement 113 x 126 ft. brick and reinforced concrete high school building; cost about $60,000. T. W. Williamson & Co., 416 Central National Bank Bldg., Topeka, archts.

York, Neb.—Reported desired until Feb. 28 for erecting 100-room hotel. Fred W. Clarke, archt., 682 Brandeis Theatre Bldg.

Red Cloud, Neb.—Reported desired until Feb. 27, by Bd. Educ., for erecting high school building.

Crosby, N. D.—Until Mar. 14 by W. E. Vadnais, co. aud., for erecting court house, jail and sheriff's residence; separate bids for cell and jail work, locating plumbing, etc. Buechner & Orth, archts., 500 Shubert Bldg., St. Paul, Minn.

Livingston, Mont.—Until Mar. 2 by Bd. Trustees (Elsie Mercier secy.), Park Co. High School, for erecting addition to high school building; also for certain alterations and repairs to old high school building; certified check for $1,000 to accompany bid. G. H. Carsley, archt., Power Blk., Helena.

Lubbock, Tex.—Until Mar. 7, by Ponton Sanitarium Co. (Dr. O. F. Peebler, secy.), for constructing 2-story and basement cut stone and reinforced concrete hospital; separate bids for heating, plumbing, elevators and kitchen equipment; cost about $65,000. Rose & Peterson, archts., Barber blk., Kansas City, Kan.

Woodward, Okla.—Reported desired until Mar. 8, by Peter Martinson, mayor, for erecting municipal building. Hawk & Parr, archts., Oklahoma City.

Toronto, Ont.—Until Mar. 1, by G. H. Crane, Ford Bldg., Detroit, for erecting movie theatre; cost about $100,000.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Buffalo, N. Y.**—Contract awarded by Schoellkopf Holding Co., 499 Abbott Road, to John W. Cowper Co., Fidelity Bldg., for erecting 4-story and basement 40 x 110 ft. brick and steel store building at 508 Main St., to cost $80,000.

★**Pittsburgh, Pa.**—Contract awarded Charles McCaul Co. for erecting 3-story 143 x 168 ft. office building for American Rolling Mill Co., at $250,000. Werner & Adkins, archts, 1206 Mercantile Library Bldg., Cincinnati, O.

★**Athens, Ga.**—Contract awarded H. J. Carr & Co., Atlanta, at $70,000 for erecting two buildings complete for State Normal School; one is a dormitory, the other an academic building.

★**Miami, Fla.**—Following are four lowest bids received Feb. 1 for erecting reinforced concrete administration service and colored ward buildings for Miami City Hospital: St. John Constr. Co. at $52,218 (awarded contract); Wolf & Ewing Constr. Co., at $55,500; A. B. Crump Constr. Co., at $56,443; R. C. Gardner & Co., at $66,000. All bidders are of Miami. W. B. Moore, city clk.

★**Middletown, O.**—Contract awarded by American Rolling Mill Co., Middletown, to Charles McCaul Co., 1715 Sansome St., Philadelphia, for erecting office building to cost about $250,000. Werner & Adkins, archts., Mercantile Library Bldg., Cincinnati.

★**Waxahachie, Texas.**—Contract awarded by Bd. Educ. for erecting new high school building to Caddo Constr. Co., Dallas, for gen. constr., and to Hill Bros. for plumbing. Total contract price is $83,000.

★**Seattle, Wash.**—Contract awarded Chas. W. Carkeek, Haight Bldg., for erecting 4-story brick and concrete apartment house at Denny Way and Boylston Ave., to cost $60,000, for Joseph E. Hubbard; Louis Svarz, archt., Haight Bldg.

★**Seattle, Wash.**—Contract awarded by Bd. Educ. to Henrikson & Co., Globe Block, for erecting building for Seward school at $89,579.

★**Seattle, Wash.**—Contract awarded by Bd. Educ. (R. W. Jones, secy.), to Henrikson & Co., Globe Block, Seattle, at $89,759 for erection complete of Seward School building.

★**Los Angeles, Cal.**—Contract awarded R. H. Arnold Co., 830 McGarry St., at $137,500, for erecting 12-story and basement steel, concrete and brick theater, studio and office building (not including foundation, steel frame, plumbing, etc.) at S. W. cor. of 3d St. and Broadway for Stability Bldg. Co., Bradbury Bldg. Albert C. Martin, archt., 430 Higgins Bldg.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK

Portland, Me.—See "Industrials."

Rochester, N. Y.—According to report of Roland B. Woodward, Chamber of Commerce, plans have been approved by Canal Bd. for construction of movable dam in Genesee River, located below the Johnson and Seymour dam; estimated cost $302,700. Agreement has been made by Erie RR. (R. C. Falconer, asst. ch. engr., New York City) for construction by state of retaining walls to serve not only as barge canal structures, but as flood prevention structure, together with reconstruction of Clarissa St. bridge and relocation of Lehigh Valley's yards and facilities.

Newark, N. J.—See "Waterworks and Sewerage Systems."

Trenton, N. J.—Contract will soon be let by City Comn. for constructing new bulkhead on Delaware River 1100 ft. long, for proposed municipal dock; cost $65,000. L. D. Hirsch, city clk.

Pennsylvania.—Pennsylvania Water Supply Comn., Harrisburg, has approved permits for following construction work:

Allegheny County, McKeesport Tin Plate Co., McKeesport, for depositing approximately 30,000 cu. yd. dredged material from the Youghiogheny River into Monongahela River between mouth of Youghiogheny River and the Dravosburg Bridge. Monongahela Southern RR. Co., for changing channel in Bull Run and Mifflin Township.

Cambria County, to construct concrete retaining wall with overhanging scale house along Little Conemaugh River, about 1.85 miles above the confluence of Little Conemaugh River with Stoney Creek.

Indiana County, for constructing coal trestle across Crooked Creek about ½ mile northeast of Chambersville, Rayne Township.

Monroe County, Meadow Brook Trout Preserve, for constructing dam across Valley Creek, Hamilton Township. John Meiser to make change or addition to dam on Butz Run, Pocono Township.

Norfolk, Va.—Bd. of Dock Comrs. adopted resolution recommending council to appropriate $600,000 for constructing municipal pier. W. H. Taylor, city engr.

Columbia, S. C.—Chamber of Commerce has recommended city council to issue $50,000 bonds for wharf and warehouse facilities on the Congaree R. near Granby.

Donaldsville, La.—Levee bonds for $150,000 will be sold Feb. 27 by Lafourche Basin Levee Dist.

Nashville, Tenn.—Only bid opened Jan. 30 by U. S. Engrs. for constructing concrete lock F, Cumberland River, was that of Mason & Hanger Co., Lexington, Ky., at $375,907, and was rejected. Work to be done by hired labor.

Monticello, Ky.—Monticello Electric Light & Power Co. contemplates constructing hydroelectric power plant.

Indianapolis Ind.—Flood bonds for $150,000 will be sold Mar. 19. L. K. Fesler, co. aud.

Little Rock, Ark.—Bill authorizing $1,500,000 bonds for St. Francis Levee Dist. has passed both houses of legislature.

Gov. Brough has signed bill creating the Southeast Arkansas Levee Dist., embracing 1,000,000 acres, for which bond issue of $1,200,000 has been authorized.

Dallas, Tex.—Property owners of Bois d'Arc Island Reclamation Dist. will vote on issuance of $250,000 bonds for constructing about 14 miles levee opposite Dallas County Levee Dist. No. 1.

Tacoma, Wash.—Washington Irrigation & Development Co. reported contemplates constructing hydroelectric plant about 9 miles from Beverly. About 500,000 hp. can be developed at cost of about $25,000,000. The company, through its consulting engineer, M. O. Leighton, Washington, D. C., is co-operating with the state and federal government geological surveys in the matter. G. L. Parker is dist. engr. of U. S. Geological Survey.

Grass Valley, Cal.—Congress has appropriated $250,000 for constructing barrier dam on Bear River.

Los Angeles, Cal.—City has applied to State Water Comn., San Francisco, for permission to divert 200 second ft. of water from south fork of Kern River in Tulare Co., for purpose of generating electricity; contemplates constructing diversion dam 20 ft. high, 150 ft. long at top and 40 ft. long at bottom, timber crib with metal gates in concrete settings, and conduit pipe line 5½ miles long to conduct the water to the proposed power house, cost $1,500,000, to be first unit of a number of hydroelectric plants, the others to be in Inyo and Mono counties. Wm. Mullholland, ch. engr. bd. pub. serv., Knickerbocker Bldg., Los Angeles.

Paradise, Cal.—See "Excavation, Drainage and Dredging."

Vallejo, Cal.—M. H. Peck, engr., 1121 Colusa Ave., Berkeley, in report to Citizens' Executive Com., states a rock dike 6 miles long is contemplated for regulation of channel across Pinole Shoals, San Pablo Bay; cost $1,125,000.

Lewiston, Idaho.—Creation of auxiliary organization for the purpose of promoting the construction of power and storage dam at or near Lewiston for municipal purposes has been authorized by the governing board of the Commercial Club.

PRICES AND LETTINGS

★*Indicates award of contract.*

Ft. Mifflin, Pa.—Following are bids opened Feb. 15 by Maj. J. C. Oakes, U. S. Engrs. Office, Philadelphia, for repairing Government wharf at Fort Mifflin: Franklin Constr. Co., Inc., 1118 Palmer St., Philadelphia, $20,687; Delaware Dredging Co., 843 Real Estate Trust Bldg., Philadelphia, $36,545.

★**Olympia, Wash.**—Contract awarded by Sloan Shipyard Corp., Olympia, to Henry Mallory, Olympia, at $25,000, for constructing dock, slips and railway.

★**Emeryville, Cal.**—Contract awarded by Parrafine Paint Co., to Standard American Dredging Co., 582 Market St., San Francisco, at $25,612 for constructing bulkhead.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK

Lyons, N. Y.—Edw. Sergeant, asst. engr. water power storage and drainage dept., Lyons, estimates cost of drainage of swamp land in towns of Lyons, Rose and Galen, a total area of 1394 acres, together with bridges, etc., at $32,360.

Cape May, N. J.—Bd. Freeholders have decided to appropriate $40,000 for draining ditches and meadows in Cape May and Wildwood.

Trenton, N. J.—Legislature considering appropriation of $50,000 for extensions to Inland waterway from Bay Head to vicinity of the Manasquan River, making fund of about $100,000 available for current year's work. Bd. of Commerce & Navigation in charge.

Wilkes-Barre, Pa.—Report of engineers representing Chamber of Commerce has been submitted to the Co. Comrs. for dredging and deepening the Susquehanna River, requiring removal of about 400,000 sq. yd. of material, loose rock, clum and other debris, from city line to Nanticoke dam; cost about $250,000.

Statesville, N. C.—Drainage bonds for $40,000 will be sold March 12 by Comrs. Snow Creek Drain. Dist. (R. Cowles, secy.).

Acworth, Ga.—Acworth Drainage Assoc. (E. W. Ray, secy.) incorporated and contemplates issuing $25,000 for reclamation of 1500 acres swamp land in Cobb County between Proctor and Altoona Creek near here, main ditch 12 to 20 ft. wide and 10 ft. deep. J. W. Phillips, engr., bureau of rural and draining eng., dept. of agriculture, Washington, D. C.

Monroe, La.—Election to be held Mar. 20 to vote on issuing $60,000 drainage bonds, $100,000 for sewers, $146,000 for reconstruction of waterworks, $61,000 for power house and reconstructing generating plant, $61,000 for street improvements, etc.

Gulfport, Miss.—See "Roads and Paving."

Humboldt, Tenn.—Drainage Dist. on middle fork of Forked Deer River organized to reclaim about 20,000 acres. W. W. Powers, co. judge.

Brownstown, Ind.—County contemplates constructing ditch in south end to cost $12,480. E. B. Douglas, co. engr., Seymour.

Sprague, Mont.—Keystone Irrig. Dist. voted to issue $200,000 for constructing Keystone Irrigation Project, covering several thousand acres west of Sprague; water to be taken from Sprague Lake; work will be started as soon as bonds are sold.

Arkadelphia, Ark.—Bill has been passed for creating the Ross Drainage Dist. in Clark Co., for drainage of about 100,000 acres in Terre Noir Valley.

Bay City, Tex.—Secy. of State granted charter to Gulf Coast Irrigation Co. with capital of $100,000. Walter Renning, St. Louis, Mo.; W. H. Ramsey among incorporators.

Tacoma, Wash.—Intercounty Improv. Comn. approved report of W. J. Roberts, ch. engr., for 20,000 lin. ft. permanent bank protection work on Puyallup River, consisting of 5000 tons rock excav., 10,000 bbl. cement, etc.; cost $100,000.

Medford, Ore.—Formation of co-operative district to be bonded for the construction of an electric power plant and irrigation system contemplated by W. J. Scott of Antioch, to include 25,000 acres of land in Sams Valley; cost about $1,000,000.

Paradise, Cal.—Bond issue of $350,000 for constructing system for Paradise irrigation district, containing about 11,250 acres, has been voted, to include construction of dam. I. E. Goodner, engr. of dist. S. E. Kiefer, 57 Post St., San Francisco, cons. engr.

San Francisco, Cal.—Plans have been prepared by Howard C. Holmes and engineering dept. of the Southern Pacific RR. (W. Hood, ch. engr., San Francisco.) for widening channel 300 ft. and deepening to 35 ft. at cost of about $2,000,000. Erection of terminal warehouses 800 ft. long and several stories high also contemplated; making total cost of about $10,000,000.

Tranquillity, Cal.—E. E. Slater, Ira Tuck and others contemplate organizing an irrigation district to secure water from north fork of Kings River for irrigating about 14,000 acres.

BIDS DESIRED

Hartford, Conn.—Until Mar. 23 by U. S. Engrs. Office, New London, for dredging Connecticut River here; cost about $150,000.

Brooklyn, N. Y.—Until Mar. 7 by L. H. Pounds, boro. pres., Boro. Hall, for constructing excavations, foundations and superstructures for new wing of Central Public Library at Prospect Pl., between Flatbush Ave. and Eastern Parkway; security $50,000; also for furnishing plumbing work for above building; security $1,200.

Wilmington, Del.—Until Mar. 19 by U. S. Engr. Office for dredging Chester River, Pa.; advertised in this issue.

Senatobia, Miss.—Until Mar. 7 by Arkabutla Creek Drain. Dist., for constructing 22 miles of ditches requiring about 1,053,000 cu. yd. excavation; plans may be obtained from Morgan Eng. Co., Memphis, Tenn.

Danville, Ill.—Until Mar. 5 by Maple Grove Drain. Dist., for constructing ditches; work includes about 99,887 ft. from 6 to 30-in. tile, 6334 cu. yd. excavation, together with sewer pipe, catch basins and concrete bulkhead or outlet wall, and also for making 5 crossings under C. C. C. & St. L. RR. tracks; also for furnishing 144 Class D c. i. pipe from 10 to 20 in., etc. Clark & Hutton, attys. for comrs., 401-403 Baum Bldg., Danville.

Forest City, Ia.—Until Feb. 27 by Co. Bd. Superv. Hancock Co. (E. P. Hanson, co. aud.) for constructing joint Drain Dist., No. 79 and 49; work includes about 9100 ft. open ditch and 103,917 ft. from 6 to 48-in. tile. C. K. Nelson, co. aud. Winnebago Co.

Ada, Minn.—Reported desired until Mar. 8 by D. E. Fulton, co. aud., for constructing ditches; cost about $25,000; also bridges; cost $8,000.

Anoka, Minn.—Until Feb. 28, by Arthur A. Causewell, co. aud., for constructing Co. Ditch No. 58; work includes about 81,-634 cu. yd. of excavation in Main Ditch, cost about $12,245, and 67,898 cu. yd. excavation on branches, including about 426 ft. of from 30 to 72-in. culvert; cost about $24,407.

Marshall, Minn.—Until Mar. 5 by Ernest S. Shepard, co. aud., for constructing Co. Ditch No. 36 and cleaning and repairing Judicial Ditch No. 3; work includes about 16,205 cu. yd. excavation; total cost about $11,263.

Redwood Falls, Minn.—Until Mar. 2, by L. P. Larson, co. aud., for constructing co. ditch No. 22; work includes in Sec. 1 about 39,780 ft of 8 to 10 ft. bottom, and 299,069 cu. yd., cost about $29,907; Sec. 2, about 20,700 ft. from 8 to 14 in. tile, together with bulkheads, etc., cost about $9,448; Sec. 3, about 18,710 ft. from 8 to 22 in. tile; cost about $8,893; Sec. 4, about 13,120 ft., from 6 to 16 in. tile; cost about $5,221; Sec. 5, 17,870 ft., from 7 to 22 in. tile; cost about $7,305; Sec. 6, 25,680 ft., from 6 to 20 in. tile, cost about $18,955; Sec. 7, 25,925 ft. of from 8 to 28 in. tile, cost about $23,230; Sec. 8, 25,475 ft., from 6 to 22 in. tile, cost about $13,468; Sec. 9, 31,453 ft., from 8 to 30 in. tile, cost about $25,704; B. J. Reynolds, Redwood Falls, engr.; also for constructing co. ditches Nos. 40, 41, 42; work includes on ditch No. 40, 15,760 ft., from 8 to 24 in. tile on main ditch, and 17,720 ft., from 6 to 20 in. tile on branches; total cost about $20,530 (F. B. Fobes, engr.); work on co. ditch No. 41, includes about 15,867 ft., from 10 to 32 in. tile, and 34,000 ft. from 6 to 20 in. tile on branches, cost about $22,588, C. W. Lanphere, Marshall, engr.; co. ditch No. 42, work includes about 19,000 ft. from 8 to 34 in. tile on main ditch and 27,636 ft. from 6 to 18 in. tile on branches; cost about $21,892, B. M. Johnson, Walnut Grove, engr.

Walker, Minn.—Reported desired until Feb. 27 for grading road and constructing ditches. Address C. D. Bacon, co. aud.

St. James, Minn.—Reported desired until Mar. 2 by J. C. Jenson, co. aud., for constructing Judicial Ditch No. 12; work includes about 48,927 gt. 6 to 30-in. tile; cost about $21,565.

Windom, Minn.—Reported desired until Mar. 1 by S. A. Brown, co. aud., for constructing Co. Ditch No. 10; work includes about 101,700 ft. 6 to 28-in. tile; bids on whole or on section of 100 ft.; cost about $59,463.

Woonsocket, S. D.—Until about Apr. 1 by Co. Aud. for 5.4 miles of tile drain in Sanborn Co. Drain. Dist. No. 28; also for 6.8 miles of tile drain in Dist. No. 30. Dakota Eng. Co., Mitchell, engrs.

Steffenville, Mo.—Until Mar. 5 by Bd. Superv. (J. G. Kaylor, secy.) for constructing about 10 miles of ditches; work includes about 457,000 cu. yd. main ditch and 64,000 cu. yd. of interior drainage ;advertised in this issue.

Monte Vista, Col.—Reported desired until Mar. 7 by Rio Grande Drain. Dist. (O. A. Cramer, secy.) for about 44 miles covered tile and wood box drains at average of 5.5 ft. depth.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Hampton, La.**—Contracts awarded by county to J. H. Salisbury, Dows, Ia., at $180,575 for constructing county ditch. F. McSpaden, co. aud.

★**Ft. Wayne, Ind.**—Contract awarded by County to Willis Daniels, Ft. Wayne, for constructing Andrew Obers Drain at $23,400.

Glencoe, Minn.—Following are bids opened Feb. 10 by F. D. Stocking, co. aud., for constructing Public Ditches Nos. 30 and 31: Ajax Dredge Co., Glencoe, Minn., at $11,230, for constructing Ditch No. 30, consisting of 85,105 yd. open ditch, floating dredge, and 464 ft. 10-in. tile; and on Ditch No. 31, Geo. McAlester, Glencoe, at $2,166.

★**Primghar, Ia.**—Contract awarded by county Feb. 13, for construction work in Drainage Dist. No. 4, to Cement Products Co., Spencer, Ia., at $15,105 for material and L. Kramer, Ft. Dodge, at $5,956 for labor. J. C. Kerrigan, co. engr.

★**Mankato, Minn.**—Contract awarded by C. L. Kennedy, co. aud., Feb. 15, to Paul Paulson, Carroll, Ia., at $11,155, for constructing Judicial Ditch No. 17.

★**St. Peter, Minn.**—Contract awarded Feb. 9 by W. H. Holz, co. aud., for constructing County Ditch No. 65, to Tracy Constr. Co., Tracy, at $20,250; other bids, New Ulm Brick & Tile Co., New Ulm, $20,780; North Star Concrete Co., Mankato, $20,900.

★**Deerfield, Kan.**—Following are bids opened Jan. 23 by town for constructing drainage system: Arthur A. Dobson & Co., Lincoln, $12,882 (awarded contract); Axtell & Oldham, Kansas City, Mo., $12,885; Wheeler & Keleher, Garden City, Kan., $13,508.

★**Twin Falls, Idaho.**—Following are four lowest bids opened by Twin Falls Canal Co. for lining canal with concrete, involving about 54,000 sq. yd. concrete, same amount asphalt paint, 75,000 ft. expansion joints, 5000 cu. yd. excav., 972,000 sq. yd. overhaul. etc.: Lord Constr. Co., Hamilton, Mont., $66,294; H. G. Hilkerson, Salt Lake City, $71,418 (contract awarded both low bidders); C. H. Palmer, Twin Falls, $72,-646; Gibbons-Read Co., Salt Lake, $72,180.

MISCELLANEOUS

PROPOSED WORK

Parks—Bridgeport, Conn.—See "Roads and Paving."

Park Bonds, etc.—Perth Amboy, N. J.—Bd. Aldermen passed ordinance for following bond issues: Park improvements, $124,-000; street improvements, $165,000, and sewer work, $40,000.

Incinerator—West New York, N. J.—Towns of North Hudson section of Hudson Co. consider constructing a joint garbage incinerator. Address John B. Frudenberger, councilman, West New York.

Transmission Line—Altoona, Pa.—Penn Central Light & Power Co., Altoona, contemplates cosntructing transmission line from Warriors Ridge to Lewistown; cost about $150,000.

Pennsylvania.—See "Foundations, Piers and Dams."

Transmission Line—Midland, Md.—Midland Electric Light Co. has secured rights of way for the erection of the new high-tension transmission line between Midland and Junction Park by the Midland Electric Light Co. Construction of a large substation near the eastern end of the boro. is also under consideration.

Transmission Line—Winchester, Va.—Decision handed down by the Berkeley Co. Court granted franchise for the Northern Virginia Power Co., Winchester, to erect and maintain electric transmission lines along various roads in Berkeley Co.

Park — Greenwood, Miss. — Greenwood Cotton Mill contemplates building park in mill village; cost $10,000.

Transmission Line — Cleveland, O.—Cleveland Electric Light & Power Co. contemplates rebuilding its distribution lines and erecting about 12 miles of transmission lines to supply this and other villages and residents in vicinity. W. N. Albertson & Co., First National Bank Bldg., Milwaukee, owners of property.

Transmission Line—Ripon, Wis.—Ripon Light & Water Co. contemplates erecting 100 miles of electric transmission lines from Portage to Beaver Dam and neighboring towns this spring.

Transmission Line—Osage City, Kan.—Towns of Allen and Admira contemplate the erection of an electric transmission line to connect with the local municipal electric light plant for electrical service in those towns.

Transmission Line—Seneca, Kan.—Electric Light Comn. contemplates erection of transmission line to St. Benedict, a distance of about 1¼ miles from the present terminus at Axtell.

Transmission Line — Helena, Mont.—Helena Light & Railway Co. contemplates erecting electric transmission line to the Scratch Gravel district to supply electricity to the various mining companies in that section; also rebuilding the upper Broadway railway, installing new ties and heavier rails on the East Helena line, and other improvements; cost about $60,000.

Garbage Disposal Plant—St. Louis, Mo.—Bd. Pub. Serv. engaged Erwin S. Osborne, 957 Rose Bldg., Cleveland, O., to prepare plans for municipal garbage disposal plant.

Incinerator—Ft. Worth, Tex.—City contemplates installing incinerator at $11,500.

Park Improvements—Houston, Tex.—Estimated cost to construct roadways and a shelter house, also playground apparatus in Cleveland Park of 115 acres, placed at $20,000.

Transmission Line—Port Orchard, Wash.—Mason County Power Co. applied to Bd. of Co. Comrs. for permission to erect and maintain electric transmission lines to supply electricity in various towns and villages in Kitsan Co.

Transmission Line—Ritzville, Wash.—Pacific Power & Light Co., Portland, Ore., negotiating with the Commissioners of Adams Co. for the right of way for electric transmission lines from the southern border of Adams Co. to Lind.

Transmission Line—Junction City, Cal.—Western States Gas & Electric Co., Stockton, has been authorized by the Railroad Comn. to extend its transmission and distribution lines in the neighborhood of Junction City, Douglas City, North Fork, Hayford and adjacent territory for power purposes.

Transmission Line — Keswick, Cal. — Northern Cal. Power Co., 995 Market St., San Francisco, contemplates erecting a 60,000 volt transmission line from Keswick to French Gulch, a distance of 15 miles, in the spring.

Winnipeg, Man.—See "Reinforced Concrete."

BIDS DESIRED

Barrel Buoys, etc., Albany, N. Y.—Until Mar. 7, by W. W. Wotherspoon, supt. pub. wks., Capitol, for Cont. No. 158, for delivering barrel buoys and lamp posts for aids to navigation on Mohawk, Oneida and Oswego rivers; cost about $3,852. Advertised in this issue.

Rock Crusher—Augusta, N. J.—Until Mar. 6, by Twp. Committee (J. W. Fountain, clk.) for one portable rock crusher, 8 to 12 tons capacity; also for 20 to 25 h.p. gasoline engine or one 15 to 20 h.p. boiler and engine.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Boilers—Allentown, Pa.**—Following bids opened Jan. 30, by Mayor A. R. Reichenbach for furnishing and installing two boilers in the pumping station: Heine Safety Boiler Co., 5319 Marcus St., St. Louis, Mo., $18,365, awarded contract; E. Keeler Co., Williamsport, Pa., $18,674.

Lockgate Machinery—Pittsburgh, Pa.—Following are bids opened Feb. 14, by Lt. Col. Edgar Jadwin, corps engrs., U. S. A., for furnishing and delivering lock gate operating machinery for Lock No. 2, Monongahela River: J. J. Milholland Co., 714 5th Ave., Pittsburgh, Pa., $8,416; Chas. Hegewald Co., New Albany, Ind., $9,179; S. B. Harding, 1232 Transportation Bldg., Chicago, Ill., $11,870.

★**Transmission Line—Ronceverte, W. Va.**—Contract has been awarded by Virginia-Western Power Co. of Clifton Forge, Va., to the J. G. White Engineering Co., 43 Exchange Pl., New York, N. Y., for 5000 kw. with provision for an ultimate capacity of approximately 30,000 kw. power plant; erecting transmission line will connect this new station with the existing transmission lines of the Virginia-Western Power Co., which now operates 114 miles of transmission lines in the territory between Lexington, Va., and Hinton, W. Va.

Fill—Tacoma, Wash.—Following are totals and unit figures of bids opened Feb. 10 by Co. Comrs. for constructing hydraulic fill on portions of S 11th St.: (a) Standard American Dredg. Co., 582 Market St., San Francisco, Cal., $74,311; (b) Puget Sound Bridge & Dredg. Co., Shipyard Harbor Island, Seattle, $75,806; (c) Tacoma Dredg. Co., Tacoma, $78,139.

	(b)	(a)	(c)
0.1 acre clearing....	$250.00	$100.00	$300.00
0.1 acre grubbing ..	250.00	100.00	300.00
86,040 lin. ft. piling in place, bulkhead.	.15	.17	.16
2,940 lin. ft. piling in place, trestle..	.15	.18	.16
1,021,000 ft. M. lumber in place, bulkhead	20.00	17.00	20.00
83,000 ft. M. lumber in place, trestle..	21.00	18.00	20.00
1,750 cords brush in place	4.00	3.40	3.50
1,040 cu. yd. broken stone in place....	2.75	1.60	1.75
2,256 cu. yd. gravel in place	1.10	1.50	1.60
256,000 cu. yd. embankment in place	.109	.1144	.118

Proposals

For Proposals Advertised See Pages 56, 57, 58, 59 and 60

WATER WORKS AND SEWERAGE SYSTEMS

Bids Close.		See Eng. Record.
Feb. 27.	Toronto, Ont.	Feb. 10
Feb. 27.	Clarksdale, Miss. Adv. Feb. 17, 24.	Feb. 17
Feb. 27.	Knoxville, Ia.	Feb. 24
Feb. 27.	Gerling, Neb.	Feb. 24
Feb. 27.	Sumerall, Miss.	Feb. 24
Feb. 28.	Burlington, Ia. Adv. Feb. 10 to 24.	Feb. 10
Feb. 28.	Neb.	Feb. 24
Mar. 1.	Big Sandy, Mont.	Feb. 3
Mar. 1.	Springfield, Ill.	Jan. 13
Mar. 1.	Portage, Wis.	Feb. 17
Mar. 1.	Tecumseh, Ont.	Feb. 17
Mar. 1.	Eldon, Ia. Adv. Feb. 24.	Feb. 24
Mar. 1.	Clifton Heights, N. J.	Feb. 24
Mar. 2.	Hawthorne, N. J.	Feb. 24
Mar. 5.	Akron, O.	Feb. 24
Mar. 5.	West Burlington, Ia.	Feb. 24
Mar. 6.	New York, N. Y.	Feb. 17
Mar. 6.	Chilton, Wis.	Dec. 2
Mar. 7.	E. View (Cleveland P. O.), Ohio	Feb. 3
Mar. 7.	Castlewood, S. D.	Feb. 17
Mar. 8.	Atlantic City, N. J. Adv. Feb. 24.	Feb. 24
Mar. 10.	Ravenna, O.	Jan. 27
Mar. 10.	Ravenna, O.	Feb. 10
Mar. 12.	McKeesport, Pa. Adv. Feb. 17, 24.	Feb. 17
Mar. 14.	West Berwick, Pa.	Feb. 24
Mar. 15.	Winnipeg, Man. Adv. Feb. 10 to 24.	Feb. 10
Mar. 15.	Ogdensburg, N. J. Adv. Feb. 24.	Feb. 24
Mar. 15.	Grand Forks, N. D.	Feb. 24
Mar. 16.	Island Heights, N. J.	Feb. 24
Apr. 1.	Gibson, Ill.	Dec. 23
Apr. 1.	Mt. Vernon, O.	Dec. 23
Apr. 1.	Hillsboro, Ill.	Jan. 27

STRUCTURAL STEEL WORK

Feb. 27.	Langdon, N. D.	Feb. 24
Feb. 27.	Palisade, Minn.	Feb. 24
Feb. 28.	Albany, N. Y. Adv. Feb. 3 to 24.	Feb. 10
Feb. 28.	Brandenburg, Ky.	Jan. 27
Feb. 28.	Windsor, Ont.	Feb. 24
Mar. 1.	Horatio, Ark.	Feb. 10
Mar. 1.	New Ulm, Minn.	Feb. 17
Mar. 1.	Bloomington, Neb.	Feb. 24
Mar. 1.	Rushville, Neb.	Feb. 24
Mar. 2.	Seattle, Wash.	Feb. 17
Mar. 2.	Summerland, Cal. Adv. Feb. 17.	Feb. 17
Mar. 2.	Flint, Mich.	Feb. 24
Mar. 2.	Asheville, N. C.	Feb. 24
Mar. 5.	Brookville, Ind.	Feb. 3
Mar. 5.	Minneapolis, Minn.	Feb. 24
Mar. 6.	Dillon, Mont.	Feb. 10
Mar. 6.	Lewisburg, W. Va. Adv. Feb. 17, 24.	Feb. 17
Mar. 7.	Dillon, Mont.	Jan. 27
Mar. 7.	Freehold, N. J.	Feb. 24
Mar. 10.	Anderson, Ind.	Feb. 24
Mar. 13.	East Dubuque, Ill.	Feb. 24
Mar. 13.	Tampa, Fla.	Feb. 24
Mar. 14.	Charleston, W. Va. Adv. Feb. 17, 24.	Feb. 17
Mar. 15.	Detroit, Mich. Adv. Feb. 10 to 24.	Feb. 10
Mar. 15.	Clifton, Ariz.	Feb. 24

REINFORCED CONCRETE

Feb. 27.	Alma, Mich.	Feb. 17
Feb. 28.	Mt. Vernon, N. Y. Adv. Feb. 10 to 24.	Feb. 10
Mar. 1.	Charleston, S. C. Adv. Feb. 10, 17.	Feb. 10
Mar. 2.	Honolulu, Hawaii	Feb. 24
Mar. 3.	Ft. Atkinson, Wis.	Feb. 17
Mar. 5.	Grand Rapids, Mich. Adv. Feb. 10 to 24.	Feb. 10
Mar. 6.	Delaware, O.	Feb. 24
Mar. 7.	Trenton, N. J. Adv. Feb. 24.	Feb. 24
Mar. 8.	Grand Rapids, Mich. Adv. Feb. 10 to 24.	Feb. 10
Mar. 9.	Milwaukee, Wis. Adv. Feb. 10 to 24.	Feb. 10
Mar. 12.	Washington, D. C.	Feb. 10
Mar. 12.	Ludington Harbor, Mich. Adv. Feb. 17 to 24.	Feb. 17
Mar. 15.	Owatonna, Minn.	Feb. 17
Mar. 20.	Geneva, N. Y. Adv. Feb. 17, 24.	Feb. 17
Mar. 26.	Hazard, Ky.	Feb 10

ROADS AND PAVING

Bids Close.		See Eng. Record.
Feb. 26.	Long Island City, L. I., N. Y.	Feb. 24
Feb. 27.	Hampton, Ia.	Feb. 17
Feb. 27.	Hayti, S. D.	Feb. 17
Feb. 27.	Sharon, Pa.	Feb. 17
Feb. 27.	Barksdale, Wis.	Feb. 24
Feb. 28.	Tompkinsville, Ky.	Jan. 27
Feb. 28.	Whitley City, Kan.	Jan. 27
Feb. 28.	Jacksonville, Fla.	Feb. 3
Feb. 28.	Wallace, Idaho	Feb. 17
Feb. 28.	Shelbyville, Ky.	Feb. 24
Feb. 28.	Detroit, Mich.	Feb. 24
Mar. 1.	Manchester, Conn.	Jan. 20
Mar. 1.	Roanoke, Ala. Adv. Feb. 10 to 24.	Feb. 10
Mar. 1.	Menasha, Wis.	Feb. 17
Mar. 1.	Fairbury, Neb.	Feb. 24
Mar. 1.	Collingwood, N. J.	Feb. 24
Mar. 1.	Woodlands, Man.	Feb. 24
Mar. 1.	Spokane, Wash.	Feb. 24
Mar. 1.	Hudson, Mich.	Feb. 24
Mar. 2.	Tompkinsville, Ky.	Jan. 27
Mar. 2.	Burlington, N. C.	Feb. 24
Mar. 2.	Indiana	Feb. 24
Mar. 3.	Plymouth, Ind.	Feb. 17
Mar. 3.	Indiana	Feb. 24
Mar. 3.	Port Huron, Mich.	Feb. 24
Mar. 3.	Middletown, O.	Feb. 24
Mar. 4.	Franklin, Pa. Adv. Feb. 17.	Feb. 17
Mar. 5.	Newton, N. J. Adv. Feb. 17, 24.	Feb. 17
Mar. 5.	Ventnor City, N. J. Adv. Feb. 17.	Feb. 17
Mar. 5.	Lewiston, Idaho	Feb. 17
Mar. 5.	Douglas, Ariz.	Feb. 17
Mar. 5.	Yreka, Cal.	Feb. 24
Mar. 5.	St. Charles, Mo.	Feb. 24
Mar. 5.	Plainfield, N. J.	Feb. 24
Mar. 5.	Columbus, Kan. Adv. Feb. 24.	Feb. 24
Mar. 5.	Coupeville, Wash.	Feb. 24
Mar. 5.	Indiana	Feb. 24
Mar. 6.	Irvington, N. Y. Adv. Feb. 17.	Feb. 17
Mar. 6.	Portage, Wis. Adv. Feb. 17, 24.	Feb. 17
Mar. 6.	Boone, Ia.	Feb. 24
Mar. 6.	Monroe, Mich. Adv. Feb. 17, 24.	Feb. 24
Mar. 6.	Indiana	Feb. 24
Mar. 7.	Sterling, Ill.	Feb. 24
Mar. 7.	Morganfield, Ky.	Feb. 24
Mar. 7.	Indiana	Feb. 24
Mar. 7.	Davenport, Wash.	Feb. 24
Mar. 8.	Jackson, Ind.	Feb. 17
Mar. 10.	Bloomington, Ill.	Feb. 17
Mar. 10.	Chenoa, Ill.	Feb. 24
Mar. 15.	Cadiz, O.	Jan. 27
Mar. 15.	Morgantown, W. Va.	Feb. 24
Mar. 15.	Pomeroy, Wash.	Feb. 24
Mar. 16.	Rocky Mount, N. C.	Feb. 24
Mar. 16.	Erwin, Tenn.	Feb. 24
Mar. 18.	Kent, O.	Dec. 30
Mar. 20.	Olive Hull, Ky.	Feb. 10
Mar. 23.	Jamestown, Ky.	Feb. 10
Mar. 24.	Wayland, Ky.	Feb. 10
Mar. 24.	Hyden, Ky.	Feb. 10
Mar. 29.	Pennsboro, W. Va.	Feb. 17
Mar. 30	Canton, Ill.	Jan. 20
Mar. 30.	Naperville, Ill.	Jan. 27
Apr. 1.	Virginia, Ill.	Jan. 13
Apr. 1.	East Rochester, N. Y.	Feb. 17
Apr. 3	Madisonville, Wis.	Jan. 27
———	Alliance, O. Adv. Feb. 24.	Feb. 24

INDUSTRIAL PLANTS AND WAREHOUSES

Mar. 1.	Lenox, Ky.	Feb. 3
Mar. 15.	Buffalo, N. Y. Adv. Feb. 17, 24.	Feb. 17
Mar. 15.	Shreveport, La.	Feb. 24

RAILROADS

Feb. 28.	Lake Toxoway, N. C. Adv. Feb. 17, 24.	Feb. 17
Mar. 5.	Brooklyn, N. Y.	Feb. 24

BUILDINGS
Public and Private

Feb. 27.	Stanford, Fla.	Jan. 27
Feb. 27.	Taft, Cal.	Feb. 17
Feb. 27.	Red Cloud, Neb.	Feb. 24
Feb. 27.	Erie, Pa.	Feb. 24
Feb. 27.	Paola, Kan.	Feb. 24
Feb. 28.	Ft. Morgan, Colo.	Jan. 27
Feb. 28.	Kings Park, N. Y.	Feb. 10
Feb. 28.	Tippecanoe, Ind.	Feb. 17
Feb. 28.	York, Neb.	Feb. 24
Feb. 28.	Woodward, Okla.	Feb. 24
Mar. 1.	Rochester, Minn.	Jan. 6
Mar. 1.	Butte, Mont.	Jan. 20
Mar. 1.	De Land, Fla. Adv. Jan. 20, 27.	Jan. 20
Mar. 1.	Beeville, Tex. Adv. Jan. 27, Feb. 3.	Jan. 27
Mar. 1.	Farrell, Pa.	Feb. 10
Mar. 1.	Rochester, N. Y.	Feb. 10
Mar. 1.	Allentown, Pa.	Feb. 17
Mar. 1.	Mars, Pa.	Feb. 17
Mar. 1.	Toronto, Ont.	Feb. 24
Mar. 2.	Birmingham, Ala.	Feb. 17
Mar. 2.	Sioux City, Ia.	Feb. 24
Mar. 2.	Livingston, Mont.	Feb. 24
Mar. 2.	Ridgefield Park, N. J.	Feb. 24
Mar. 3.	Basin, Wyo.	Feb. 3
Mar. 5.	Comfrey, Minn.	Jan. 27
Mar. 5.	New Orleans, La. Adv. Feb. 10.	Feb. 10
Mar. 6.	Madison, S. D.	Feb. 3
Mar. 6.	Savanna, Ill.	Feb. 3
Mar. 6.	Chicopee, Mass.	Feb. 10
Mar. 6.	Redfield, S. D.	Feb. 17
Mar. 6.	Bogalusa, La.	Feb. 24
Mar. 7.	Bay City, Tex. Adv. Feb. 3, 10.	Feb. 3
Mar. 7.	Lubbock, Tex.	Feb. 24
Mar. 8.	Sergent Bluff, Ia.	Feb. 10
Mar. 8.	Ann Arbor, Mich.	Feb. 17
Mar. 8.	Woodward, Okla.	Feb. 24
Mar. 9.	Hammond, La. Adv. Feb. 3, 10.	Feb. 3
Mar. 12.	Martin, Tenn.	Feb. 3
Mar. 13.	Hiawatha, Kan.	Feb. 3
Mar. 14.	Plainview, Ark.	Feb. 17
Mar. 14.	Crosby, N. D.	Feb. 24
Mar. 15.	Atkins, Ark.	Feb. 17
Mar. 15.	Omaha, Neb.	Feb. 17
Mar. 15.	Marion, Ky.	Feb. 17
Mar. 18.	Pulaski, Va.	Feb. 3
Mar. 21.	Martins Ferry, O. Adv. Feb. 17, 24.	Feb. 17
Mar. 23.	Holley Springs, Miss.	Feb. 24
Mar. 29.	Coshocton, O.	Feb. 24
Apr. 10.	Sullivan, Ind.	Feb. 24
May 1.	Minneapolis, Minn.	Nov. 25

FOUNDATIONS, PIERS AND DAMS

Mar. 1.	Lake Worth, Fla.	Feb. 17
Mar. 7.	Woods Hole, Mass.	Feb. 17
Mar. 8.	Grand Rapids, Mich. Adv. Feb. 10, 17.	Feb. 10
Mar. 8.	Tacoma, Wash.	Feb. 17
Mar. 15.	Pensacola, Fla.	Feb. 10

TUNNELS AND SUBWAYS

Mar. 26.	Los Angeles, Cal.	Feb. 24

EXCAVATION, DREDGING AND DRAINAGE

Feb. 27.	Olivia, Minn.	Feb. 10
Feb. 27.	Slayton, Minn.	Feb. 17
Feb. 27.	Walker, Minn.	Feb. 24
Feb. 27.	Forest City, Ia.	Feb. 24
Feb. 28.	Slayton, Minn.	Feb. 17
Feb. 28.	Anoka, Minn.	Feb. 24
Mar. 1.	Windom, Minn.	Feb. 24
Mar. 2.	St. James, Minn.	Feb. 24
Mar. 2.	Redwood Falls, Minn.	Feb. 24
Mar. 5.	Steffensville, Mo. Adv. Feb. 24.	Feb. 24
Mar. 5.	Danville, Ill.	Feb. 24
Mar. 5.	Marshall, Minn.	Feb. 24
Mar. 7.	Alexandria, La.	Jan. 13
Mar. 7.	Brooklyn, N. Y.	Feb. 24
Mar. 7.	Senatobia, Miss.	Feb. 17
Mar. 7.	Monte Vista, Colo.	Feb. 24
Mar. 7.	Senatobia, Miss.	Feb. 24
Mar. 8.	Ada, Minn.	Feb. 24
Mar. 8.	Baltimore, Md. Adv. Feb. 10, 24.	Feb. 10
Mar. 13.	Newport, R. I. Adv. Feb. 17, 24.	Feb. 17
Mar. 15.	Ft. Laramie, Wyo. Adv. Feb. 17.	Feb. 17
Mar. 15.	Neoedesha, Kan.	Jan. 27
Mar. 15.	Cedar Rapids, Ia. Adv. Feb. 10.	Jan. 27
Mar. 15.	Powell, Wyo.	Feb. 17
Mar. 19.	Wilmington, Del. Adv. Feb. 24.	Feb. 24
Mar. 20.	Vallejo, Cal.	Feb. 10
Mar. 23.	Hartford, Conn.	Feb. 24
———	New York, N. Y. Adv. Feb. 17.	Feb. 17

MISCELLANEOUS

Feb. 28.	Hydraulic Turbine, Rock Island, Ill.	Feb. 17
Mar. 1.	Brooms—Newark, N. J.	Feb. 17
Mar. 5.	Horses and Props, Louisville, Ky. Adv. Feb. 10 to 24.	Feb. 10
Mar. 6.	Rock Crusher — Augusta, N. J.	Feb. 24
Mar. 7.	Barrel Buoys — Albany, N. Y.	Feb. 24
Mar. 14.	Dredge, Madison, S. D. Adv. Feb. 17, 24.	Feb. 17
Mar. 16.	Hydraulic Lift, Philadelphia, Pa. Adv. Feb. 10, 17.	Feb. 10

SEARCHLIGHT SECTION

Official Proposals

Price, $2.40 an inch—Copy can be received until Wednesday, 5 p. m for issue mailed the next day

Bids open February 28, 1917.

NOTICE TO CONTRACTORS

BARGE CANAL WORK

STATE OF NEW YORK,
OFFICE OF SUPERINTENDENT OF PUBLIC WORKS,
ALBANY, N. Y.

Sealed proposals will be received by the undersigned at his office in the Capitol at Albany, N. Y., until twelve o'clock noon of Wednesday, Feb. 28, 1917, at which place and hour they will be publicly opened and read, for improving the New York State canals pursuant to the provisions of Chapter 147 of the Laws of 1903, and of the acts amendatory thereof and supplementary thereto, and Chapter 570 of the Laws of 1915, as follows:

1.

CONTRACT NO. 84.
Erie Canal—Section 8.

For constructing portions of a viaduct over the Clyde River and railroad tracks at Clyde.

Sheets 1 to 11 inclusive

2.

CONTRACT NO. 122-A
Erie Canal—Section 4.

For constructing the substructure and superstructure, and completing the approaches of a highway bridge over the Mohawk River near Little Falls, at about Barge Canal Center Line Station 4246-42.

Sheets 1 to 11 inclusive.

3.

CONTRACT NO. 131-A
Champlain Canal—Section 1

For completing the reconstruction of the highway bridge crossing the main channel of the Hudson River at Schuylerville.

Sheets 1 to 7 inclusive.

Plans may be seen and detailed specifications, engineer's estimate of quantities, proposal blanks, form of contract and bonds required and other information for proposers may be had at the office of the Superintendent of Public Works at Albany, N. Y.; at the office of the Assistant Superintendent of Public Works for the Middle Division at Syracuse, N. Y.; at the office of the Assistant Superintendent of Public Works for the Western Division at Rochester, N. Y., and at the canal office Spaulding's Exchange, Buffalo, N. Y.

Copies of detailed plans or drawings may be obtained from the State Engineer and Surveyor at Albany, N. Y., upon payment to him of the cost of producing them.

Monthly estimates will be paid of ninety per centum (90 per cent) of the work done at the contract price. Every proposal for said work must be accompanied by a money deposit in the form of a draft or certified check upon some good banking institution in the city of Albany or New York, issued by a national or state bank in good credit within the state and payable at sight to the Superintendent of Public Works for five per centum (5 per cent) of the amount of the proposal.

The person whose proposal shall be accepted will be required to execute a contract and furnish bonds within ten days from the date of notice of award delivered to him or them in person or mailed to the address given in the proposal.

Upon execution of the contract and approval of bonds, the certified check or draft will be returned to the proposer unless the same shall have been presented for collection prior to such time, in which case the amount of the deposit will be refunded by the Superintendent of Public Works.

The deposits of bidders other than the one to whom the award of contract shall be made will be returned immediately after the award has been made.

The bond required for the faithful performance of each contract shall be in such sum as shall be fixed by the Superintendent of Public Works, which sum shall not be less than twenty per centum (20 per cent) of the estimated cost of the work according to the contract price, and an additional bond, known as the labor bond, in the sum of ten per centum (10 per cent) of the amount of the estimated cost of the work according to the contract price, will be required as security that the contractor will pay in full at least once in each month all laborers employed by him upon the work specified to be done in the contract.

In the event that more than one surety company is offered as surety on said bonds, co-insurance only will be accepted.

Each proposal must be addressed to the Superintendent of Public Works, Albany N. Y., and must be endorsed on the envelope with the name of the construction for which the proposal is made.

Award, if made, will be made to the person or persons whose proposal shall be lowest in cost to the state for doing the work and which shall comply with all provisions required to render it formal. Before any award shall be made the lowest bidder will be required to satisfy the Superintendent of Public Works of his ability to provide suitable equipment and materials for the proper performance of the work.

The right is reserved to reject all proposals and readvertise and award the contract in the regular manner if, in the judgment of the undersigned the interests of the State will be enhanced thereby.

W. W. WOTHERSPOON,
Superintendent of Public Works
January 29, 1917.

Bids open February 28, 1917.

PUMPING ENGINE OR CENTRIFUGAL PUMP

CITIZENS WATER COMPANY,
BURLINGTON, IOWA.

Sealed proposals will be received by the Citizens Water Company at its office, Burlington, Iowa, until 6 p. m., Wednesday February 28, for a horizontal cross compound crank and fly wheel condensing pumping engine with a capacity of 4200 gallons per minute for pumping water from the river to the settling tanks.

Alternate proposals will also be received at the same time and place for a centrifugal pump for the same work. The centrifugal pump may be driven by a steam turbine or by a compound Corliss condensing engine.

The Citizens Water Company does not bind itself to accept the lowest or any proposal. Copies of specifications may be obtained from,

FRANK LAWLOR,
Superintendent.
February 3, 1917.

Bids open March 5, 1917.

PAVING

NEWTON, N. J.

Notice is hereby given that sealed bids will be received by the Board of Chosen Freeholders of Sussex County for the paving of Ross's Corner-Sussex Road, in the townships of Frankford and Wantage, in the county of Sussex, with a concrete surface, one course; estimated amount of surface pavement required is 61,479 sq. yd. and opened and read in public at the Freeholders' Room, Newton, N. J., on Monday, March 5, at 11 a. m., next.

Drawings, specifications and forms of bid, contract and bond for the proposed work, prepared by Harvey Snook, County Engineer, and approved by the State Commissioner of Public Roads, have been filed in the office of said engineer at Newton, N. J., and of said Commissioner at the State House, Trenton, N. J., and may be inspected by prospective bidders during business hours. Bidders will be furnished with a copy of the specifications and blue prints of the drawing by the engineer on proper notice and payment of cost of preparation. Bids must be made on the standard proposal forms in the manner designated therein and required by the specifications, must be enclosed in sealed envelopes, bearing the name and address of bidder on the outside, addressed to Board of Chosen Freeholders, Newton, N. J., and must be accompanied by a certified check or cash for not less than $1,000, and be delivered at the place and on the hour above named. The standard proposal form is attached to the specifications, copies of which will be furnished on application to engineer.

The right is hereby expressly reserved to reject any and all bids.

By order of the Board of Chosen Freeholders.

R. LEE SLATER,
Clerk.

Bids open March 8, 1917.

CAST IRON PIPE AND FITTINGS

DEPARTMENT OF PARKS AND PUBLIC PROPERTY.
CITY OF ATLANTIC CITY, N. J.

Sealed proposals for making and furnishing cast iron pipe and fittings for the City of Atlantic City will be received by the Board of Commissioners of Atlantic City, when called for at the chambers of the Board in the City Hall, during a meeting to be held by that body on the 8th day of March, A. D., 1917, at which time and place, during the session of said Board, the proposals will be opened and publicly read.

The materials to be made and furnished under the proposals embrace approximately:

61 tons of cast iron pipe, 8 tons of cast iron fittings.

Each proposal submitted must be accompanied by a certified check drawn upon a National or State Bank, or a Trust Company, and to the order of the City Treasurer, for the sum of Three Hundred dollars ($300.00).

Specifications and blank forms of proposal can be obtained upon application to L. Van Gilder, Engineer and Superintendent of Water Department at his office in Atlantic City.

The Board of Commissioners expressly reserves the right to reject any or all bids as it may deem best for the public interest.

J. B. THOMPSON,
Director of Parks and Public Property.

Upward-Price Movement Continues—Reserve Board Gaining Control of Gold

Banking Position Strong, Though Bond Market Is Heavier—Many Road-Bond Issues in Sight—Traffic Situation Improving Very Slowly

THE FACT that the actual gold reserves of the Federal Reserve system have been increased of late to $492,000,000 and that the board now controls altogether about $780,000,000 of gold is considered to indicate that the board is in a very strong position as regards its ability to curtail the inflation of currency and the overextension of loans. As has been pointed out on several occasions, the oversupply of gold accumulating in this country is a source of great potential danger unless held together for the time when it inevitably must be returned to the countries from which unusual conditions have caused it to flow into the United States.

In spite of the strength of our banking position, and although the funds in the hands of banks and private investors still exceed the demand for short-term loans, causing rates on these loans to continue very low, funds available for investment as fixed capital are apparently decreasing, and as a result the price of high-grade bonds is decreasing and the interest yield on them is increasing. Taken in connection with the fact that this country proposes at once to borrow $100,000,000 on account of the international situation, and may need much more, it is evident that long-term financing carried out this year is likely to be put through at much higher rates than have prevailed of late. It is interesting to note that bond issues for road construction recently voted or being agitated in six states reach the total of $300,000,000. A considerable proportion of these bonds will probably be placed on the market this year.

In addition to the possibility that higher rates may curtail the financing of road construction to some extent, the labor situation is by no means improving, and might grow much worse if this country were obliged to go to war. Out of twenty-seven contracts in central and western New York State, bids for which were received Feb. 19, only seven of the sections attracted more than one bidder, and for eleven of them no bids at all were received.

Iron and Steel

The railroads, already in difficulty through lack of sufficient cars to handle the business offered, have been severely handicapped during the past month by bad weather, and also, perhaps, through confusion and congestion resulting from the failure of much American and neutral shipping to clear from the Atlantic seaboard. The unavoidable delays in deliveries resulting from this condition and the embargoes which the railroads were obliged to renew in order to protect themselves have seriously affected domestic business, and especially the steel industry. The production of pig iron, which, according to the *Iron Age*, has been steadily decreasing since the record set last October, dropped during January to 3,151,000 tons, and is expected to show a much smaller total for February. This curtailment is taking place at a time when order books are so full that many important producers have no capacity remaining for the current year. Moreover, mills and districts able to produce certain steel products are unable to have them transported to other districts which want to buy, and whose local supply of these products has run out. On this account the market for steel products is inclined to be erratic, and further price increases have occurred which would not have been expected had normal traffic conditions prevailed.

Pig Iron—General price advances have continued. Prices recently quoted per ton are as follows:

No. 2X, Philadelphia	$32.00
No. 2, Birmingham	24.50
No. 2, furnace Chicago	33.00
Basic, valley furnace	30.00

Steel Products—It will be seen that while Pittsburgh base prices remain unchanged, advances have taken place in several lines at New York and Chicago, especially in warehouse prices. Those given below are per 100 lb., f.o.b. mill or warehouse:

	Immediate Delivery	Future Delivery	Warehouse
Pittsburgh:			
Structural material	...	$3.25	$4.00
Plates	$5.00	3.75	...
Steel bars	3.25	3.00	...
Iron bars	3.50	3.25	...
Rivets	...	4.25	...
New York:			
Structural material	**3.919**	**3.419**	**4.10**
Plates	4.919	4.669	5.00
Steel bars	3.669	3.169	**4.00**
Iron bars	...	3.419	3.70
Chicago:			
Structural material	...	3.439	**4.00**
Plates	5.189	3.939	**4.75**
Steel bars	...	3.189	3.75
Iron bars	...	3.00	3.75
Rivets	...	4.40	4.50

Sheets—Prices of No. 28 gage sheets have again advanced. Those quoted are per 100 lb. at the points named:

	Black	Galvanized
Pittsburgh	$4.75	$6.50
Chicago	5.40	6.50

Rails—Prices per ton, f.o.b. the points named, remain as follows:

	Open Hearth	Bessemer
Pittsburgh	$40.00	$38.00
Chicago	40.00	38.00

Cast-Iron Pipe—Prices per ton in carload lots remain steady at figures quoted below:

	Class A and Gas Pipe	Class B and Heavier
New York	$42.50	$41.50
Chicago	42.50	41.50
Birmingham	37.00	36.00

Wrought Pipe—Considerable advances over the prices quoted at the end of January are noted below. Those given are for carload lots, f.o.b. Pittsburgh, for lap-welded steel and iron pipe, plain ends:

	Black	Galvanized
Steel pipe, 2½ to 6 in.	$84.00	$109.00
Iron pipe, 2½ to 6 in.	106.00	132.00

Concrete Materials

Cement—Price advances have continued, and a general gain of considerable proportions has been scored since Dec. 1 over the entire country. Prices quoted below are to contractors, per barrel, f.o.b. the points named, not including sacks:

Boston	$2.00	Duluth	$1.91
New York	1.62	St. Paul	**1.93**
Pittsburgh	1.66	Cedar Rapids	**1.89**
Cleveland	1.79	Kansas City	**1.74**
Atlanta	1.77	Houston	1.65
Cincinnati	1.79	Denver	**2.09**
Detroit	1.75	Phoenix	2.85
Chicago	1.66	Seattle	2.20
Jacksonville	**1.80**	San Francisco	2.00
New Orleans	1.86	Los Angeles	2.00
Memphis	1.89		

Sand—Prices in large lots to contractors, f.o.b. the points named, continue as follows:

Boston	$0.80	Houston	$1.00
New York	.50	Denver	.75
Cincinnati	*.75	Phoenix	1.00
Chicago	1.25	Seattle	.75
New Orleans	1.05	San Francisco	*.70
St. Paul	.50	Los Angeles	.35
Kansas City	.60		

*Per ton.

Price advances printed in **heavy type**; declines in *italics*.

Gravel and Crushed Rock—Prices remain substantially unchanged. These given below are per cubic yard to contractors in large lots, f.o.b. the points named:

	Gravel ¾-in.	Gravel 1½-in.	Crushed Rock ¾-in.	Crushed Rock 1½-in.
Boston	$1.40	$1.30	$1.25	$1.25
New York	...	1.10	1.40	1.10
Cincinnati	*.75	*.80	*.95	*.95
Chicago	1.25	1.25	1.15	1.15
New Orleans	1.70	*1.45*	4.00	3.50
St. Paul	*1.10*	1.10	1.55	1.45
Kansas City	2.25	2.00	1.35	1.25
Houston	1.85	1.75	1.85	1.75
Denver	1.25	1.25	1.75	1.75
Phoenix	2.00	1.50	1.75	1.75
Seattle	.75	.75	1.50	1.50
San Francisco	*.75	*.75	*1.25	*1.00
Los Angeles	.85	.85	1.00	.95

*Per ton.

Brick and Paving Material

Brick—Two changes are noted. Prices quoted are per 1000, wholesale, f.o.b. the points named:

	Common	Paving
Boston	11.50	22.50
New York	9.50	.....
Cincinnati	*8.50*	22.50
Chicago	6.00	.....
New Orleans	*7.00*	27.00
St. Paul	12.00	*1.06
Kansas City	9.00	20.00
Houston	10.00	26.00
Denver	7.50	.....
Phoenix	12.00	.....
Seattle	7.00	28.75
San Francisco	10.00	30.00
Los Angeles	5.50	23.50

*Per square yard.

Stone and Wood Paving Blocks—Prices remain substantially the same, those quoted below to contractors, per square yard, f.o.b. the cities named:

	Standard Stone Block	4-In. Wood Block
Boston	†2.45	*1.92*
New York	2.20	2.00
Cincinnati	*75.00	1.65
New Orleans	*60.00	1.36
St. Paul	1.75	*1.67*
Kansas City	2.00	1.70
Denver	....	1.86
Seattle	....	1.35

*Per 1000. †Delivered on street.

Asphalt—Contract prices for the year 1917 governing the sale of the asphalts named are per ton, f.o.b lighters or cars, Maurer, N. J.:

Kind	Less than car lots	Car lots, less than 250 tons	Car lots, 250 to 1000 tons	Car lots, more than 1000 tons
Refined Trinidad Lake Asphalt	$20.00	$18.50	$18.00	$17.50
Refined Bermudez Lake Asphalt	27.50	26.00	25.50	25.00

Lumber

Yellow Pine—Wholesale prices given below are per 1000 ft. b.m., f.o.b. the points named:

	1 x 10 Rough	2 x 10 D & M	8 x 8 20	12 x 12 20
Boston	*$60.00*	*$32.00*	*$36.00*	*$42.00*
Cincinnati	32.50	29.50	26.50	30.25
Chicago	25.00	23.00	25.50	29.00
New Orleans	24.00	25.00	23.00	26.00
St. Paul	*40.00*	*29.00*	*26.50*	*33.00*
Kansas City	37.50	28.50	*31.00*	*34.25*
Houston	20.00	22.50	22.50	22.50

*Retail yard price.

Fir—Recent wholesal prices, f.o.b. the points named, per 1000 ft. b.m., are as follows:

	1 x 10 Rough	2 x 10 D & M	8 x 8 20	12 x 12 20
Boston	†$43.00	†$37.00	†$39.00	†$40.00
Chicago	.....	.....	32.25	32.25
St. Paul	*36.00*	*26.00*	33.00	33.00
Kansas City	38.50	.....	29.00	29.00
Denver	20.00	22.00	23.00	23.50
Phoenix	.....	37.50	37.50	.....
Seattle	*16.50	*16.50	*16.50	*16.50
San Francisco	*16.00	*16.00	*16.00	*16.00
Los Angeles	*21.00	*21.00	*21.00	*21.00

*Base price. †Retail yard price.

Price advances printed in **heavy type**; declines in *italics*.

Spruce and Hemlock—Prices quoted below are wholesale, per 1000 ft. b.m., f.o.b. the cities named:

	Hemlock 1 x 10 Rough	Hemlock 8 x 8 20	Spruce 8 x 8 20
Boston	.....	.....	†$33.00
St. Paul	$26.00	*$31.00*	*31.00*
Kansas City	37.50	29.00	....
Denver	20.00	.....	.....
Seattle	*16.50	*16.50	*16.50
San Francisco	*16.00	*16.00	.....
Los Angeles	*20.00	*20.00	.....

*Base price. †Retail yard price.

Sewer Pipe and Tile

Sewer Pipe—Few additional advances are noted. Prices quoted below are per linear foot in large lots to contractors, f.o.b. the points named:

	3-in.	5-in.	8-in.	12-in.	24-in.	36-in.
Boston	8.4	12.6	19.6	37.8	126	317.75
New York	8.1	12.15	18.9	36.45	121.5	307.5
Cincinnati	7.5	11.25	17.5	33.75	135	349
Chicago	7.5	12	17.5	33.75	135	350
New Orleans	4.16	6.5	12.15	22.95	91	...
St. Paul	8	11.5	16	30	105	...
Kansas City	8	11	15	27	115	240
Houston	9.4	14.04	20.7	37.4	149.4	...
Denver	6	....	*18.17*	*29*	*110*	...
Phoenix	7.5	12.5	22.5	37.5	125	300
Seattle	7.5	....	22.5	41.25	175	...
San Francisco	7.5	....	22.5	41.25	175	...
Los Angeles	5.5	9	16	26.5	100	...

Hollow Building Tile—Further advances have occurred at two points. Prices quoted are for exterior tile per 1000, f.o.b. the points named in large lots, to contractors:

	4 x 12 x 12	8 x 12 x 12	12 x 12 x 12
Boston	$100.00	$160.00	$195.00
Perth Amboy	82.50	140.00	206.00
Cincinnati	*50.80*	95.25	129.00
Chicago	54.00	101.25	140.00
New Orleans	70.00	120.00	160.00
St. Paul	55.60	104.30	130.50
Kansas City	46.75	90.00	126.00
Phoenix	100.00	175.00	.....
Seattle	55.00	95.00	150.00
San Francisco	70.00	120.00	200.00
Los Angeles	40.00	75.00	.....

Miscellaneous

Manila Rope—Further rises in price are noted after the general advance scored last month. Prices quoted below are per pound to contractors in full cars, local delivery at the points named, for ¾-in., 1-in. and 1½-in. rope:

Boston	$0.255	Houston	$0.245
New York	.245	Denver	.26
Cincinnati	.24	Phoenix	.30
Chicago	.225	Seattle	.24
New Orleans	.24	San Francisco	.22
St. Paul	.22	Los Angeles	.215
Kansas City	.265		

Oil—Some further advances in prices of black oil, red engine oil and gasoline are noted. Those quoted below are per barrel of 50 gal. to contractors at the points named:

	Fuel	Black	Red Engine	Steam Cylinder	Gasoline
Boston	$5.00	$7.50	$12.50	$18.75	$12.00
New York	....	7.50	14.00	17.50	11.50
Cincinnati	5.25	5.00	9.50	*13.50*	11.25
Chicago	2.46	4.75	9.50	17.00	9.50
New Orleans	*1.50	7.50	11.00	*15.75*	11.25
St. Paul	2.50	6.00	7.75	16.00	10.00
Kansas City	6.70	3.80	9.85	16.85	9.15
Houston	1.16	4.50	9.00	18.00	10.00
Denver	2.73	7.50	13.00	21.00	11.50
Phoenix	2.20	10.00	13.50	24.50	12.75
Seattle	1.35	6.25	9.50	20.00	10.25
San Francisco	4.52	5.75	9.50	20.50	10.00
Los Angeles	1.15	7.25	10.25	20.00	9.50

*Car lots.

Dynamite—Prices have taken a sudden jump over practically the entire country, especially in the higher grades. A slight shortage of glycerine is reported. Prices quoted below are per 100 lb. to contractors for the grades named at the points indicated:

	20% Low Freezing	40% Gelatine	60% Gelatine	80% Gelatine
Boston	$17.00	$19.50	$23.50	$32.50
New York	.....	*21.75*	27.75	.....
Cincinnati	15.75	18.25	22.25	33.25
Chicago	14.50	19.00	25.00	32.00
New Orleans	17.50	*19.75*	*23.75*	.....
St. Paul	16.50	18.50	22.50	.....
Kansas City	16.00	21.00	27.00	33.50
Houston	.....	17.75	20.25	.....
Denver	13.75	*18.75*	24.75	31.25
Phoenix	.....	27.75	.....	.....
Seattle	11.25	*17.00*	23.00	30.00
San Francisco	12.25	17.25	23.25	30.25
Los Angeles	14.00	17.00	.....	.....

Copper—Copper prices have continued to advance and the markt is strong. For spot electrolytic at New York, 37 cents per pound was asked recently, with second-quarter delivery quoted at 34½ cents a pound.

Lead—Prices have advanced very considerably, recent quotations for quantities of not less than 30 tons for spot lead being 10¾ cents per pound, New York, and 10¼ cents East St. Louis.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Where name of official is not given inquiries should be addressed to City Clerk, County Clerk or corresponding official.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK

Cortland, N. Y.—City considers construction of pumping station and purchasing new machinery for waterworks. D. B. Coleman, city engr.

Elmira, N. Y.—City considering sewer improvements. Thurber A. Brown, asst. city engr.

Fredonia, N. Y.—Election to be held March 12 on issuing $128,000 bonds for construction of sewage disposal plant and trunk sewers.

Westfield, N. Y.—City considering waterworks improvements. Clyde C. Hill, city engr.

Dover, N. J.—Alexander Potter, 50 Church St., New York, has been engaged to go over the watershed in King's Hill and to ascertain the quality of water which can be secured from the shed, and furnish maps of pipe lines and estimate the cost of constructing reservoir. E. D. Neighbor, Dover, reported interested.

East Orange, N. J.—City will lay a drain in 5th ward; cost $35,000.

Millville, N. J.—City Comn. has instructed Newton B. Wade, city engr., to prepare plans for sewer system, sewage disposal plant and pumping station for West Millville.

North Arlington, N. J.—Boro Council considering construction of sewage disposal plant. William Brandenburg, mayor.

Phillipsburg, N. J.—Robert P. Howell, town engr., preparing plans for the rearrangement of sewerage system.

Trenton, N. J.—Management of Colored Manual Training School has asked Legislature for $25,000 for sewage disposal system and $5,000 to improve water supply of institution.

Aldan, Pa.—Boro Council instructed its sewer comn. to confer with Boro of Clifton Heights relative to entering an agreement looking toward the construction of a joint sewage system.

Lebanon, Pa.—P. A. Volcker, city engr., writes that the first sections of Lebanon's storm water proposition, for which $230,000 was authorized last fall will be ready for letting by April, to be shortly followed by letting of contracts for disposal plant and third district of sanitary sewers.

Hagerstown, Md.—Washington Co. Water Company, Washington, Pa., will spend $50,000 on improvements to its filtration plant on Antietam Creek, near here.

Pottsville, Pa.—City Council has decided to have plans prepared for sewer system; cost about $250,000.

Scranton, Pa.—Alexander Potter, 50 Church St., New York, appointed by city as consulting engr. to prepare plans for intercepting sewer, to convey all of the district sewers to a central point, where the sewage is to be disposed of and for disposal plant at that point. E. B. Jermyn, mayor.

West Chester, Pa.—Boro Council considering construction of sewage pumping station in northwest section of city. W. D. Vosbury, engr., Camden; N. R. Rambo, boro engr.

Goldsboro, N. C.—City will lay water and sewer mains. W. E. Oehres, city engr.

Columbus, Ga.—It will cost about $75,000 to complete sewerage of Cook's branch and all connections necessary, according to estimates submitted to Council by Committee on Streets and Sewers. Robert Reid, chmn.

Birmingham, Ala.—City considering construction of additional intercepting sewer and will lay about 1½ miles of water mains; cost about $60,000. T. E. Beck, supt. waterworks.

De Ridder, La.—City has $43,000 available for sewerage system

Jackson, Tenn.—Election will be held March 8 on the question of issuing $40,000 bonds to be used for extensions to sewerage system. Marshall K. White, actg. city engr.

Newport, Tenn.—City considering sewer improvements. C. B. McNabb, city engr.

Canton, O.—City Council considering issue of bonds to be used for waterworks improvements as follows: enlarge and improve distribution system, $50,000; to buy pipe to be laid in streets, $10,000, and to buy meters, $10,000.

City will ask state aid in construction of a large reservoir or artificial lake north of city to conserve surface water for use of manufacturing plants. C. A. Stolberg, Mayor.

Cleveland, O.—See "Excavation, Drainage and Dredging."

Fremont, O.—City considering waterworks improvements including construction of filtration plant. Geo. Kinney, mayor.

London, O.—City considering sewer improvements. McCafferty & Clark, city engrs.

Rocky River, O.—Contract will be let in May for construction of sewage disposal plant and sewer system, and about 3 miles of water mains will be laid during year. Frank Mitchell, clerk.

Willoughby, O.—City considering construction of sewage disposal plant. Chas. D. Clark, city engr.

St. Johns, Mich.—City will lay water and sewer mains. E. G. Hulse, city engr.

Granite City, Ill.—City considering construction of sewers. Edmund Hall, engr. bd. local improvements.

Jacksonville, Ill.—City considering waterworks improvements to cost about $100,000. Plans include a centrifugal pump, a dynamo, new mains, etc.

North Crystal Lake, Ill.—Plans being prepared for sanitary sewer system and purifying plant; cost about $74,000. Hugh M. Price, engr., 8 S. Dearborn St., Chicago.

Springfield, Ill.—City Comrs. have rejected bids for water mains and pipe recently submitted; new bids will soon be received; lowest bid received was for $49,000.

Chippewa Falls, Wis.—City considering construction of 1 mile of sewers. J. T. Hurd, city engr.

Superior, Wis.—City considering installing new waterworks. Chas. A. Novak, city engr.

Dunlap, Ia.—Contracts will be let about March 1 for construction of 34,320 lin. ft. sewers. Price & McCormack, engrs., Missouri Valley, Ia.

Newton, Ia.—Plans being prepared for 5 miles of 8 to 15-in. vitri. sewer pipe and construction of 2 sewage disposal plants. E. G. Finch, city clk. M. G. Hall, engr., Centerville.

Waterloo, Ia.—City considering sewer improvements. C. S. Wilson, city engr.

Chatfield, Minn.—City considering construction of 6 or 8 blocks of sewers during spring. F. W. Shimer, city recorder.

Ely, Minn.—City considering construction of sanitary storm sewers. C. A. Nutter, city engr.

St. Paul, Minn.—City Council considering construction of St. Anthony hill relief sewer; cost $797,057.

West Concord, Minn.—City having plans prepared for construction of waterworks. W. C. Buck, engr., 4821 Fremont Ave., S.

Neodesha, Kan.—City considering construction of sewage disposal plant; cost $40,000 and waterworks, cost $40,000. C. A. Case, city engr.

Lincoln, Neb.—City considering water and sewer extensions. A Dobson, city engr.

Mitchell, S. D.—City considering construction of sewers and improvements to waterworks. S. H. Smith, city engr.

Harlem, Mont.—City Council considering installation of a chlorine plant for treating water and two 50,000-gal. settling tanks will be installed.

Cape Girardeau, Mo.—City considering construction of combined sanitary and storm sewer system. Chris. Stiver, city engr.

Malvern, Ark.—City considering construction of water plant; cost $110,000.

Amarillo, Tex.—City Light & Water Co., considering waterworks improvements to cost $106,000.

Beaumont, Tex.—Sewer bonds for $100,000 and waterworks bonds for $80,000 have been approved. Address the Mayor.

Houston, Tex.—Plans being prepared by E. E. Sands, city engr., for sanitary sewers on portions of Bayou, Clark, Chapman, Wrightwood and Quitman Sts.

Wichita Falls, Tex.—Plans reported completed for water-pipe line from Lake Wichita to new oil field in Archer Co., a distance of about 8 miles.

Kingston, Okla.—Bd. of Trustees have retained the Benham Eng. Co., Oklahoma City, to prepare plans and supervise construction of sanitary sewer system. Election will be called as soon as engrs. have made report.

Madill, Okla.—City Council has retained Benham Eng. Co., Oklahoma City, to prepare plans and supervise construction of proposed waterworks extensions. Election to vote $75,000 bonds will be called.

Wilburton, Okla.—Plans being prepared for construction of waterworks; cost $55,000. Mackintosh-Walton Eng. Co., engrs., 1023 State National Bank Bldg., Oklahoma.

Grand Junction, Colo.—City will lay about 5000 ft. of 6-in. water pipe this summer and also install an auxiliary pumping plant for emergency purposes. H. F. Vorbeck, comr. of finance and supplies.

Okanogan, Wash.—J. D. Hubbard, co. aud., reports W. E. Blakely and E. M. Scott of Monse have applied to Comrs. for a franchise to lay, construct, maintain and operate underground waterpipes and conduits for a domestic water system for county roads, streets and alleys in Okanogan Co., outside of incorporated towns and cities.

Republic, Wash.—The Curlew Mining Co., operating the local water system, plans replacing old water mains with new pipe and otherwise improving local plant; cost $16,000.

St. John, Wash.—Mayor P. B. Gains has appointed a committee to investigate the proposition of installing municipal water system.

Astoria, Ore.—Astoria Waterworks Commission will soon let contracts for lining waterworks tunnel 1200 ft. long, 6 ft. in diameter, with concrete, between present reservoir and Uppertown; also for construction of another reservoir in Uppertown. Olof Anderson, city auditor.

Oregon City, Ore.—Reported extension to local water plant and distributing system, owned jointly by Oregon City and West Linn, will be made to accommodate various communities nearby who are requesting service.

Portland, Ore.—Waterworks bonds for $75,000 will be sold March 22 by A. L. Barbur, city aud.

Brawley, Cal.—Bonds for $17,000 for improving waterworks system will be sold March 7; address J. A. Harris, city clk.

Calistoga, Cal.—City is having appraisal made of water co.'s system with view of purchasing or constructing water system.

Globe, Ariz.—Council reports to have authorized City Clk. to secure services of expert to determine cost of installing sewer system and waterworks.

Jerome, Ariz.—Election will be held March 20 to vote $40,000 bonds for constructing sewer system. Fred. Whittaker, city clk.

Price, Utah.—A corporation represented by Atty. A. C. Ellis, Jr., Salt Lake City, proposes to divert water owned by city at a point above Colton and pipe it down to city reservoirs. Such a plain is said to be the only solution of the water problem of Castlegate, Helper, Price and the Rio Grande Railway, all of which are now taking their water direct from Price River. Many citizens favor asking permission to vote bond issue so city can construct its own pipe line; cost $150,000. An election to vote on contract March 10.

Halifax, N. S.—Contract will soon be let and plans being prepared for sewer extension; cost $75,000.

Toronto, Ont.—W. E. Taylor, asst. engr., reports contracts will soon be let for construction of 17½ miles of water mains.

Edmonton, Alta.—Council considering construction of sewage disposal plant, 5,000,000 gal. capacity; cost $600,000.

Vancouver, B. C.—City Engr., E. L. Fellowes, reports plans being prepared and contracts will soon be let for construction of English Bay sewer; work involves 1100 ft. of 72-in. reinforced concrete pipe.

BIDS DESIRED

Boston, Mass.—Until Mar. 6 by Patrick O'Hearn, act. supt. of supplies, for furnishing 425 tons of 4 to 12-in. c. i. pipe.

Providence, R. I.—Until March 12, by W. C. Pelkey, city clk., for furnishing an 8,000,000-gal. pumping unit at Hope Pumping Station; advertised in Feb. 24th issue.

Norwalk, Conn.—Until Mar. 24, by Cmrs. Second Taxing Dist., for constructing additions to water filtration plant; advertised in this issue.

Canton, N. Y.—Until March 22, by Bd. Water Comrs., for constructing waterworks system; also for furnishing c. i. pipe for village. C. E. Perry, 36 State St., Albany; advertised in this issue.

Fort Ann, N. Y.—Until March 15, Bd. Trustees, for constructing waterworks system; Wilson M. Main, village pres.; advertised in this issue.

Irvington, N. Y.—Until Mar. 13, by Bd. Sewer Comrs. (Joseph A. Murphy, clk.), for laying 2,700 ft. of 8-in. sewer pipe; advertised in this issue.

Rochester, N. Y.—Until March 7, by Bd. Contract and Supply (F. X. Pifer, secy.) for c. i. pipe and special castings for 1917.

Garfield, N. J.—Until March 9, by Mayor and Council, for 2 air compressors, one 110-hp. horizontal tubular boiler, and one air receiver. John A. Dwyer, clk. boro.; Anton L. Petterson, boro. engr.; advertised in this issue.

Johnstown, Pa.—Until March 20, by Supt. Streets and Pub. Imprvs. for constructing sanitary sewers with appurtenances. C. P. Collins, engr.; advertised in this issue.

Dadeville, Ala.—Until Mar. 23 by Town (J. B. Jenkins, mayor) for constructing sanitary sewerage system; certified check for $500 to accompany bid.

Crestline, O.—Until Mar. 10, by Edward Libens, village clk., for constructing sewers in Bauer Ave. and Seltzer St.

Cuyahoga Falls, O.—Until March 12, by W. F. Williston, village clk., for constructing about 5 miles of main and lateral sewers; advertised in this issue.

Lima, O.—Until March 7, by A. L. Metheany, dir. pub. serv., for furnishing f. o. b. cars at Lima, waterworks material such as Class "C" c. i. water pipe, etc., for the year 1917.

New London, O.—Until March 12, by W. P. Curtiss, clk. bd. pub. affairs, for constructing waterworks system; Philip Burgess, engr., Columbus; advertised in this issue.

Toledo, O.—See "Roads and Paving."

Dundee, Mich.—Until March 6, by W. H. Tirrell, village clk., for constructing waterworks system; work includes deep well pump, force pumps, reservoir, elevated tank, building and distribution system. George Champe, engr., 610 Nasby Bldg., Toledo, O.

Madison, Ill.—Until March 10, by F. A. Gareshche, pres. village bd., for constructing sewer system; advertised in this issue.

Wilmington, Ill.—Until March 15, by J. C. Thompson, mayor, for constructing water mains, including about 13,285 ft. of 4 to 8-in. pipe, 51 hydrants of 4 in. and 40,750 service connections, cocks, valves, etc.; total cost $34,167.

Denver, Ia.—Until Mar. 14 (new date), by F. T. Farnsworth, town clk., for constructing sanitary sewer system and disposal plant; work includes about 16,000 ft. of 6 to 12 in. pipe. G. H. Bishop, city engr., Oelwein.

Rolfe, Ia.—Reported desired until March 12, by Byron G. Boos, city clk., for constructing 5 miles 8 to 12-in. sewer and sewerage disposal plant, consisting of Imhoff tank and sand filter bed. C. H. Currie, cons. engr., Webster City.

Lawrence, Kan.—Mar. 21, by F. D. Brooks, city clk., for improvements to waterworks plant, including hydrants, steam pumping engine, c. i. pipe, etc. Black & Veatch, engrs., Interstate Bldg., Kansas City, Mo., advertised in this issue.

Benson, Neb.—Reported desired until March 7, by C. Hollestelle, city clerk, for water mains; cost about $14,180.

Marshall, Tex.—Until March 10, by City (H. O. Wilson, chmn. city comn.) for furnishing 170 tons from 4 to 8-in. c. i. pipe.

Kaw City, Okla.—Reported desired until Mar. 9, by Town Trustees, for constructing waterworks and electric light system; Benham Engrg. Co., Colcord Bldg., Oklahoma, engrs.

Skiatook, Okla.—Reported desired until Mar. 6, for constructing waterworks improvement; cost about $20,000; address W. M. Calvin, town clk.

Vancouver, Wash.—Until March 15, by H. L. Harris, mgr., North Coast Power Co., for constructing new pipe line from springs at Ellsworth to local reservoir and new distributing mains in distributing system; cost about $60,000.

Arcadia, Cal.—Reported desired until March 8, by George F. Grimes, city clk., for furnishing 17,000 ft. of riveted-steel water pipe.

Brawley, Cal.—Until March 21, by J. A. Harris, city clk., for constructing reinforced concrete water storage basin; also for 4700 lin. ft. 15-in. sludge sewer; total cost about $17,000; G. R. Wade, city engr.

Los Angeles, Cal.—See "Roads and Paving."

Modesto, Cal. — See "Reinforced Concrete."

Nez Perce, Idaho.—Until March 7, by Thomas M. Roberts, clk. sewer committee, for constructing sewer and sewage disposal plant; work includes about 24,700 ft. of from 8 to 15-in. vitr. sewer pipe, together with manholes, etc.; cost about $35,000. Sawyer Bros., White Bldg., Seattle, engrs.

West Zorra Twp., Ont.—Until March 13 (extension of time) for 10,401 lin. ft. tile catch basins and spillway. Address Allan Murray, clk. of council.

PRICES AND LETTINGS

★Indicates award of contract.

★Newark, N. Y.—Contract awarded for filter and water purification plant for Custodial Asylum for Feeble-Minded Women (Albert W. Bevan, pres. bd. mgrs.) to Norwood Eng. Co., Florence, Mass., at $12,980.

Oswego, N. Y.—Lowest bid opened by City for sewers on portions of W. 6th, Montcalm, Bronson and other streets was that of R. Compo, Oswego, at $9,733; other bidders: M. Barber, Binghamton, $10,497; N. Bati, Oswego, $11,084; L. Tremiti, Oswego, $14,114. Chas. W. Linsley comr. dept pub. wks.

★Schenectady, N. Y.—Contract awarded by City for welding 36-in. lock bar steel pipe line to Commercial Welding Co., 114 Liberty St., New York City, which bid for electric welding joints on inside at $18,336. Company will do all excavating found necessary and locate and repair all leaks that may develop under test and for period of 1 year thereafter. They bid for 5/16-in. plate $46.84, and ⅜-in. plate $48.85. C. C. McWilliams, supt. bureau of water.

Ridgefield, N. J.—Following are 4 lowest bids opened Feb. 14 for construction of sewerage system: Jas. Ferry & Sons, 2411 Madison Ave., Baltimore, Md., $111,402; Martin & Miller, Caldwell, N. J., $129,480; Acme Eng. Co., 868 Main St., Hartford, Conn., $157,446; Chas. Ippolito, 252 Main St., Orange, N. J., $159,831. Chas. F. Blood, engr., Morsemere, N. J.

★Philadelphia, Pa.—Contract awarded by Bd. Pub. Wks. to Whiting Turner Constr. Co., Sexton Bldg., Baltimore, Md., at $75,000, for intercepting sewer along Frankford Creek for sewage disposal plant.

★Cincinnati, O.—Contract awarded by City for pipes and valves for extending water system to U. S. C. I. Pipe & Foundry Co., Addyston, at $64,815, house connections for 1917 to J. J. Brown, 906 Elberon Ave., $46,872.

★Dayton, O.—Contract awarded for storm sewer and repaving in Jefferson St. to Wm. Kershner & Chas. F. Smith & Co., 1401 N. Main St. at $22,000; storm sewer in 3rd St. to Boyd & Cook at $17,172; also E. 3rd St., at $2,272.

★Gary, Ind.—Contract awarded by City for sewer on south side to Heiny & Holben, Gary, at $288,577.

★Rockford, Ill.—Contract awarded for 1917 pipe supply as follows: For 22 tons 4-in. main; 300 tons 6-8-10-in. mains; 30 tons 12-in.; 22 tons class "C" water mains, to American C. I. Co., 1 Broadway, New York; for 35,000 lb. pig lead, 75 fire hydrants, 128 valves and 125 automatic valve boxes, to Rockford Brass Wks.

★Silvis, Ill.—Contract awarded for sewer and water main project for 7th St. dist., to Moline Heating & Constr. Co., Moline, at $9,573.

Des Moines, Ia.—Lowest bid received by City for Highland Park sewer was that of Moreno & Burkham, St. Louis, Mo., at $41,417.

★Rockwell, Ia.—Contract awarded by City for construction of sewage disposal plant to G. Schlachter, at $12,375.

★West Union, Ia.—Contract awarded by City for laying sewer mains to T. Carey & Son, Oilton, at $15,000.

★Humboldt, Kan.—Contract awarded for construction of sewer system to Everett & Burt, Hutchinson, at $35,021.

★Winfield, Kan.—Contract awarded by City for 1,750,000-gal. reservoir to Bass & Frankenfield at $19,800.

Houston Tex.—Following are lowest bids received Feb. 19 by City for construction of sanitary sewers: Glen Park addition, C. P. Hunter, $4,878, and portions of Hutchins St., at $1,815; Kipling, Youpon and Commonwealth Aves., W. Waldo, $20,181. Bidders all of Houston.

★Houston, Tex.—Contract awarded by city for construction of sanitary sewer on Sherman St., York to Linwood Sts., to Houston Constr. Co., Houston, at $42,600; also to same company contract to remove 24-in. c. i. pipe extending from Willow St. pumping plant to old filter bed, at $12,000.

Calexico, Cal.—Lowest bid reported submitted by Rice & Dutcher, Imperial, to City Council for constructing 160 x 24 x 9 ft. reinforced concrete filter basin, earth settling basins, sludge chambers and 700 ft. 18-in. vitri. pipe line for city water system at $9,750.

★York Township, Ont.—Contracts awarded at follows (bids opened Feb. 12): C. i. pipe to National Iron Wks., Toronto, $132,000 and c. i. specials at $12,000; c. i. pipe to Canadian Allis Chalmers, Toronto, $83,000; check valves, Chapman Valve Co., $1,200; air valves, Drummond McCall, Montreal, $165. F. Baker, twp. engr., Toronto.

Milwaukee, Wis.—Following are 2 bids with unit figures opened Feb. 23 by city for sewer contract No. 24, Kinnickinnic River Valley, Section 3; (a) Wisconsin Tunnel & Constr. Co., 810 Majestic Bldg., Milwaukee, $174,953; (b) John F. Casey Co., Oliver Bldg., Pittsburgh, Pa., $179,173. John H. Fowles, secy. sewerage comn.

	(a)	(b)
1 inverted siphon under Kinnickinnic River	$2,000.00	$3,000.00
7,150 lin. ft. 36-in, concrete sewer	17.54	19.30
1,706 lin. ft. 24-in. t.-c. pipe sewer encased in concrete	15.45	10.00
200 lin. ft. 18-in, t.-c. pipe sewer encased in concrete	12.00	9.00
825 lin. ft. 12-in. t.-c. pipe sewer encased in concrete	9.00	8.50
600 vert. ft. standard manholes	17.50	20.00
18 c.-i. manhole frames and covers	20.00	17.00

★**Vancouver, B. C.**—Contract awarded by Harbor Comrs. for installation of water and sewerage system for Granville Island to Ledingham & Cooper, Vancouver, at $15,000.

STRUCTURAL STEEL WORK

PROPOSED WORK

Maine.—Com. on Ways and Bridges (F. P. Washburn, secy.), State Legislature, Augusta, considering following proposed bridge work: Calais, repairing international bridge over St. Croix River; Yarmouth, constructing bridge over Cousin's River; Belfast, reconstructing part of lower bridge over Belfast Bay; Plymouth, repairing "Long Bridge."

Portsmouth, N. H.—Roads and Bridges Com. of House, State Legislature, Manchester, considering bill authorizing construction of bridge between here and Kittery.

Rhode Island.—State Legislature, Providence, considering bill authorizing $300,000 bond issue to construct bridges in state, $175,000, of which will be appropriated for work during this year.

New Haven, Conn.—Com. on Roads, Rivers and Bridges, State Legislature, favors construction of new Washington bridge; estimated cost $900,000, divided as follows: State and Connecticut Ry. Co. (W. G. Smith, ch. engr., Waterbury), each $300,000; New Haven and Fairfield counties (New Haven and Bridgeport respective co. seats), other third.

Pittsburgh, Pa.—City contemplates constructing a bridge from Chestnut and Ohio Sts. over the Allegheny River at Penn Ave. and Eleventh St.

Bridgeport, N. J.—Plans being prepared by West Jersey & Seashore RR. (Alex. C. Shand, ch. engr.), Broad St., Philadelphia, for new drawbridge over Bridgeport Creek, Pennsgrove branch.

Jersey City, N. J.—Central RR. of New Jersey (A. E. Owen, ch. engr., New York, N. Y.) presented petition to City Comrs. asking for authority to construct at its own expense viaduct over its own land at foot of Communipaw Ave. over Phillip St. and 46 railroad tracks; estimated cost in excess of $95,000.

New Brunswick, N. J.—Plans being prepared by Pennsylvania RR. (Alex. C. Shand, ch. engr.), Broad St., Philadelphia, for new 30-ft. wide bridge over Deep Cut, with 5-ft. walks each side.

Falls, Pa.—State Legislature, Harrisburg, considering bill appropriating $200,000 to Dept. Grounds and Bldgs., for construction of bridges, one of which will be over Susquehanna River between here and West Falls. Address Clk., dept. grounds and bldgs., State House, Harrisburg.

Pennsylvania—State Water Supply Comn., Harrisburg, has approved permits for following:

Pittsburgh. — Bridge across Sewickley Creek, 1 mile north of Duff City, Marshall twp.; bridge across Cedar Run, ½ mile nw. of Dorseyville, Indiana twp.; bridge across Fish Run (branch of Pine Creek), 1.5 mile nw. of Ingomar station, Franklin twp.; bridge across Pine Creek, ¾ mile. ne. of Ingomar station., McCandless twp. Address co. clk.

Erie.—Bridge over Brandy Run, on Miller Rd. 2 m. ese. of Girard. Address co. clk.

Scranton.—Bridge across Lackawanna River, between Olyphant and Blakely boro's, on Lackawanna St. Address boro. clk.

Lancaster. — Bridge across Conestoga River, where the road from Brownstown to Farmersville and Ephrata crosses the Conestoga River, near Brownstown, in West Earl twp.; bridge across Cocalico Creek, where the road from Akron to Clay and Weidmanville crosses Cocalico Creek, at a point about ½ mile ne. of Pennsylvania & Reading R. R. station in Ephrata twp. Address co. clk.

New Castle.—Bridge across Big Run. Address co. clk.

Greenburg.—Bridge across 4 mile run, 1200 ft. south of Beatty Station, on main line of Pennsylvania RR., and 3½ miles east of Hempfield and Unity twp.; Pennsylvania R. R. Co. (Alex C. Shand, ch. engr., Philadelphia) to construct bridge across Conemaugh River, about 1600 ft. above its junction with Loyalhanna twp.

Reading.—Philadelphia & Reading R. R. and Lessee of Wilmington & Northern R. R. Co., to construct bridge across Hay Creek, 2120 ft. south of Birdsboro Station, Boro of Birdsboro.

Huntingdon.—Harbison-Walker Refractories Co., to construct bridge on piers and abutments of old co. bridge across the Juniata River.

Wilmington, Del.—State Legislature, Wilmington, considering bill authorizing issuance of $200,000 to construct bridge over Christian River in Newcastle Co.

Knoxville, Tenn.—Southern Ry. (B. Herman, ch. engr., Washington, D. C.) intends constructing 8 bridges with 30-ft. to 80-ft. spans over creeks, ravines and bogs on route between here and Salisbury.

Columbus, O.—Bids received for Seymour Concrete Arch Bridge rejected because over Engr's. estimate; contract will be awarded for steel bridge. John Peake, co. surv.

Lima, O.—City Engr. Dept. preparing plans to lengthen several bridges over Ottawa River.

Detroit, Mich.—Bd. Supervs. considering offer of Henry Ford to construct bridge over River Rouge connecting North and South Dearborn roads, about 200 ft. from Michigan Central RR. bridge, and to dedicate land as a public highway.

Fox Lake, Ill.—House of Representatives, Washington, have approved plans authorizing construction of bridge over Lake Nippersink between here and Antioch Twp.; estimated cost $35,000. Charles Russell, co engr., Waukegan.

Prairie du Chien, Wis.—Estimated cost of proposed bridge and approach over Wisconsin River, at Walnut Eddy Point, this place, placed at $60,000; stock company being formed to construct toll bridge as state has promised to improve roads in Wisconsin State Park leading to this place, providing bridge is erected. Address Secy., City Club.

Eudora, Kan.—Contracts will soon be awarded by Douglas and Leavenworth Cos. (Lawrence and Leavenworth, respective co. seats) to repair bridge connecting counties over Kaw River, this place; estimated cost $10,000, will be borne equally by each county. Robert McHarlpen, engr., Court House, Kansas City, Kan. $4,200 has been raised by private subscription to defray cost of contemplated dike work in conjunction with bridge repair work.

Marion, Ark—County intends constructing bridge from west end of Harahan bridge to St. Francis levee district levee, to cost about $350,000.

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Engineering Record

239 West 39th Street, New York

Dardanelle, Ark.—State Legislature, Little Rock, considering bill authorizing formation of special tax dist. to replace present pontoon bridge with permanent one over Arkansas River, this place.

Electra, Tex.—Citizens of this place contemplate organizing company to construct toll bridge, north of here, over Red River. H. H. Haynes, co. comr., Court House, Wichita Falls. Address D. T. Cross, interested, Electra.

Wichita Falls, Tex.—Estimated cost of proposed toll bridge 20 mile upstream over Red River on Meridian Highway placed at $25,000, construction of which is favored by citizens of northwest Texas and southwest Oklahoma towns.

McAlester, Okla.—Cities of McAlester and Eufaula have selected site 2½ miles down river from Katy bridge to construct steel or concrete bridge over Canadian River on Jefferson Highway between Pittsburgh and McIntosh Cos.; estimated cost $150,000, for which stock company has been formed to raise this amount. Address D. N. Fink, pres., Jefferson Highway Assoc., Muskogee, Okla.

Everett, Wash.—County Engr., W. C. Bickford, preparing plans for concrete arch or steel viaduct, 2 span, across section of Pacific Highway, between Marysville and Silvana, to cost $20,000.

Spokane, Wash.—City Engr., Morton MacCartney, preparing plans for both a concrete and steel structure over Spokane River at Post St.; steel bridge estimated at $100,000.

Portland, Ore.—See "Railroads."

Sacramento, Cal.—Western Pacific RR. (T. J. Wyche, ch. engr., San Francisco, Cal.) has asked permission of State Reclamation Board, this place, to replace present wooden bridge over American River near place where Northern Electric Ry. Co. recently constructed $150,000 bridge, with single track steel bridge with concrete piers.

Phoenix, Ariz.—State Legislature is considering an appropriation of $22,000 for the completion of state highway bridge across the Agua River west of Phoenix.

BIDS DESIRED

Barbourville, Ky.—Until March 14, by Read P. Black, clk. co. court, for constructing steel bridge on Pike Road and for building approach to big Richland Road; advertised in this issue.

Winchester, Ind.—Until Mar. 8, by Bd. Cmrs. Co., for constructing new bridges in White River Twp.; some of bridges are John Cheesman, composed of steel and concrete, and located on east side of sec. 33, twp. 20, north range, 13 east; also for constructing bridges in Washington, Wayne, Ward, West, River, Monroe and Green Twps.

Davenport, Ia.—Until March 6, by Co. Aud. for furnishing brick and culvert material for 1917. J. M. Malloy, co. engr.

Akeley, Minn.—Reported desired until March 7, by E. A. Graham, act. rec., for constructing 50,000-gal. steel tank and tower.

Fort Riley, Kan.—Until Mar. 27, at office of Constructing Quartermaster, for constructing highway bridge; advertised in this issue.

Westpoint, Neb.—Until March 13, by R. Brazda, co. clk., for all bridge and bridge repair work throughout the county during 1917; certified check for $200 to accompany bid.

New Madrid, Mo.—Until March 6, constructing steel bridge, span 75 ft. and width 14 ft. Felix W. Robbins, engr. Drain. Dist. No. 28; advertised in this issue.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Springfield, Ill.**—Following are 4 lowest bids received by State Highway Dept. (Clifford Older, bridge engr.), to construct Warner Bridge between Rockville twp., Kankakee Co., and Custer and Wesley twp., Will Co.: M & P Contract. Co., Hatfield, Ind., $47,569 (awarded contract); Porter-McCully Const. Co., Mackinaw, Ill., $48,600; The Gould Const. Co., Davenport, Ia., $53,700; Morrison Const. Co., Des Moines, Ia., $54,276.

★**Warner, Ill.**—Contract awarded by State Highway Comn., Springfield, Ill., to M. & P. Contr. Co., Hatfield, Ind., at $47,569, to construct Warner bridge.

★**Rice Lake, Wis.**—Contract awarded by City Commissioners to Stein Construction Co., Medford, for constructing bridge on Main St., at $26,830.

★**Atlantic, Ia.**—Contract awarded by C. E. Kringel, co. aud. (bids opened Feb. 19), to Des Moines Structural Steel Wks., Des Moines, Ia., at $18,322, to construct 5 steel bridges.

★**Atlantic, Ia.**—Contract awarded by county to Des Moines Structural Steel Co., Des Moines, for constructing 4 I-beam spans from 24 ft. to 32 ft. and one 40-ft. pony-truss bridge.

★**Cherokee, Ia.**—Contracts awarded by county to Western Bridge & Constr. Co., Omaha, Neb., at $17,897, and to Ward & Weighton, Sioux City, Ia., at $10,525, each firm to construct 3 pony trusses; to Pickus Engr. & Constr. Co., Sioux City, Ia., at $13,552, to construct 6 I-beam and 2 slab bridges.

★**Ft. Dodge, Ia.**—Contract awarded by county (bids opened Feb. 19) for 3 bridges, to N. M. Stark & Co., Des Moines, at $11,800. J. L. Hanrahan, co. aud.

Toledo, Ia.—Contract awarded by county to A. P. Munson, Marion, Ia., at $27,864, for culvert work in county.

★**Central City, Neb.**—Contract awarded Western Bridge & Constr. Co., 648 Bee Bldg., Omaha, for constructing wood and steel bridges for year 1917. W. H. Riggs, co clerk.

★**Grafton, N. D.**—Contract awarded by county (bids opened Feb. 7) to Fargo Bridge & Iron Co., Fargo, for constructing 20 or more steel and wooden bridges at $25,135. W. C. Treuman, co. aud.

★**Sisseton, S. D.**—Contract awarded by R. C. Richert, co. aud. (bids opened Feb. 19) to H. L. Allingham, this place, for constructing county bridges at $8,255.

★**Butte, Neb.**—Contract awarded Norfolk Bridge & Con. Co., Norfolk, for constructing 15-ton bridges, 20 to 30 ft. spans. S. A. Richardson, co. clerk.

★**Garfield, N. M.**—Contract awarded to Wisconsin Bridge & Iron Co., Milwaukee, Wis., at $6,700, to deliver structural steel, f.o.b. cars at North Milwaukee, Wis., for 800-ft. span bridge over Rio Grande on Rio Grande irrigation project, New Mexico.

REINFORCED CONCRETE

PROPOSED WORK

Pennsylvania. — State Water Supply Comn., Harrisburg, has approved permits for following:

Clearfield.—Concrete bridge across Clearfield Creek, about ½ mile above mouth of Clearfield Creek; address Co. Clk.

St. Clair.—Reinforced concrete bridge over Mill Creek, on Hancock St., here; address Co. Clk., Pottsville.

York.—York & Gettysburg Turnpike Road Co. will construct reinforced concrete bridge across Turkey Run, in Adams Co., and reinforced concrete bridge across Hoke's Run, in York Co.

Swissville, Pa.—Bd. Educ. will erect 3-story, 175 x 200-ft. reinforced concrete and brick high school building to cost $180,000. H. Lloyd, archt., Harrisburg.

Wilmington, Del.—Plans completed by E. Camby May, Du Pont Bldg., Wilmington, for erecting 5-story concrete and steel Y. M. C. A. building; cost $250,000.

Wilmington, Del.—City Bridge Com. has recommended to Levy Court that present steel superstructure of Washington St. bridge be converted into concrete structure at cost of $125,000; also converting abandoned B. & O. RR. bridge in 9th Ward into vehicle and foot passenger bridge at cost of $25,000.

Fairmont, W. Va.—City considering construction of 2 concrete bridges, also the construction of garbage plant.

Pensacola, Fla.—Escambia Co. Comrs. (J. G. White, chmn.) intend constructing bridge at Molino, one approach of which will be in Santa Rosa Co., and are obtaining data for contemplated replacing of several wooden bridges with cement one.

Columbus, O.—Plans being prepared by Braun, Knollman & Fleming, Co. Superv's office, Columbus, O., to construct reinforced concrete bridges at Broad St., $400,000, and at Mount St., $250,000, replacing present structures.

Milwaukee, Wis.—Plans were completed by Robert A. Johnston Co. for erecting 6-story, 120 x 300 ft. concrete candy and confectionery factory to cost $600,000, at 34th and National Aves.

Minneapolis, Minn.—Plans being prepared by F. W. Cappelen, city engr., for reinforced concrete bridge with two 300-ft. spans and long approaches over Mississippi River at 19th Ave. S.; estimated cost $500,000.

Galveston, Tex.—County voted Feb. 6 on $600,000 bonds (its share of cost) to reconstruct Galveston concrete causeway. R. M. Sias, co. engr.

Seattle, Wash.—Puget Sound Bridge & Dredging Co., Central Bldg., Seattle, will erect 2-story reinforced concrete garage and salesroom for Studebaker Co., at Bellevue Ave. and Pine St., to cost $75,000.

Cordova, Alaska.—Capt. A. E. Lathrop plans erecting 4-story concrete theater and store building to cost $65,000. Work to begin in spring.

Hamilton, Ont.—Plans being prepared by McPhie & Kelly, Bank of Hamilton Bldg., for erecting 10-story reinforced concrete, brick and stone construction printing plant and offices for Spectator Printing Co., to cost $1,000,000.

Kincardine, Ont.—Plans being prepared for erecting reinforced concrete and brick factory building for J. B. Watson to cost $50,000.

BIDS DESIRED

Westfield, N. J.—Until March 13, by Bd. Park Comrs. (Robert E. Perry, secy.) for constructing concrete terrace over lake and constructing concrete culverts and steps at New Park.

Ft. Wayne, Ind.—Reported desired until Mar. 20, by Allen Co. Comrs., for constructing reinforced concrete arch bridge; cost about $77,000; A. W. Grosvenor, engr.

Houston, Tex.—Until March 6, by E. B. Bonney, city secy., for erecting reinforced concrete municipal warehouse on Houston Ship Channel; cost about $175,000. E. E. Sand, city engr.

Seattle, Wash.—Until March 14, by Port of Seattle Comn., for erecting Hanford St. grain elevator to contain 30 circular bins 17 ft. 5 in. x 83 ft. 20 interspace bins, conveyor belts, etc., also 300 bu. per hour grain drier with 50 hp. water tube boiler, etc., to be of reinforced concrete on ground plan 107 x 109 ft.; total cost $100,000. G. F. Nicholson, ch. engr., Seattle.

Modesto, Cal.—Until March 12, by Bd. Superv. (Hugh Benson, clk.) for constructing 3 reinforced concrete bridges across irrigation canals on Irwin City, Gledora and Oakdale, Thalheim Roads; also for constructing 16 reinforced concrete inverted siphons.

PRICES AND LETTINGS

★*Indicates award of contract.*

Tuckahoe, N. Y.—Following are 4 lowest bids opened Feb. 19 by Bd. Supervs. (Harvey B. Green, clk.), Courthouse, White Plains, to construct stone and concrete bridge over Bronx River between here and Yonkers, for which $17,000 was appropriated: Fagnani Bros., Tuckahoe, $16,355; W. E. Jackson, N. Y. C., $16,489; C. Luciano, Tuckahoe, $18,450; Faillace Bros., Mamaroneck, $19,209.

★**Mont Clare, Pa.**—Contract awarded by Co. Comrs. (Daniel F. Stout, Norristown, clk.) to Needs & Brooks, Pekiomenville, for constructing concrete bridge over Schuylkill River, at $12,698.

★**Wheeling, W. Va.**—Contract awarded by County Comrs. (bids opened Feb. 9) to Luten Bridge Co., York, Pa., for constructing 3 concrete arch bridges.

★**Atlantic, Ia.**—Contract awarded by Cass County to Lang Constr. Co., Council Bluffs, for constructing a 36-in. and a 48-in. concrete bulkhead and 15 concrete box culverts ranging in size from 3 ft. x 3 ft. to 6 ft. x 8 ft. H. S. Williams, co. engr.

★**Atlantic, Ia.**—Contract awarded by C. E. Kringel, co. aud. (bids opened Feb. 19) to Lana Constr. Co., Council Bluffs, Ia., at $11,701, to construct 15 concrete culverts.

★**Cherokee, Ia.**—Contracts awarded by county to R. E. Shakelton, Perry, Ia., at $43,525, to construct 23 reinforced concrete box culverts, 1 retaining wall and 19 I-beam and slab bridges; to L. G. Hayward, Cherokee, Ia., at $20,732, to construct 35 reinforced concrete box culverts; to Russell Stratton, Washta, Ia., at $11,622, to construct 32 reinforced concrete box culverts.

Oklahoma City, Okla.—Bid of Bent Bros., for constructing concrete conduit at the waterworks plant will be submitted to the City Comrs.; expenditure about $172,210.

★**Spokane, Wash.**—Contract awarded by Spokane, Portland & Seattle Ry. Co., to Porter Bros. Co., Portland, for enlarging and reinforcing with concrete two tunnels, one 2,500 ft. long and other 360 ft. long. (Contr.)

★**Modesto, Cal.**—Contract awarded by county to C. E. Cotton, 16 California St., San Francisco, for constructing 5 concrete bridges on county highways, at about $9,000.

★**Juneau, Alaska.**—Contract awarded by Harlan Thomas, Arcade Bldg., Seattle, to Peter Woeck, Arcade Bldg., Seattle, for erecting 3-story, 79 x 146 ft. reinforced concrete school building here at $50,780.

★**Montreal, Que.**—Contract awarded by Canadian Theaters, Ltd., London, Ont., to John Hayman, 432 Wellington St., London, for erecting brick, steel and reinforced concrete theater to cost $150,000.

★**Winnipeg, Man.**—Contract awarded Carter Halls Aldinger Constr. Co., 1010 Union Bank Bldg., for erecting brick and concrete addition to Grain Exchange Bldg., to cost $55,000.

ROADS AND PAVING

PROPOSED WORK

Boston, Mass.—City Council contemplates issuance of $750,000 to $1,000,000 bonds for proposed paving work this year. J. M. Curley, mayor.

Woonsocket, R. I.—State Legislature considering bill authorizing this city to issue $500,000 bonds for paving and bridge work.

Brooklyn, N. Y.—Estimated cost to repave Fort Hamilton Ave. placed at $300,000, for which Raymond V. Ingersoll, park comr., has asked Bd. Estimate for $90,000 to repave section between 72d St. and Shore Road, Ft. Hamilton, and $10,000 for making repairs in immediate vicinity of 72d St.

Herkimer, N. Y.—About 40 miles of county and town and 20 miles of state roads will be constructed in county this year. W. H. Corey, co. engr.

Syracuse, N. Y.—Estimated cost for proposed repaving and resurfacing streets as follows: Wolf St., $93,090; South Ave., $67,300; Cortland Ave., $60,000; South West St., $48,820; total, $269,210. H. A. Allen, city engr.

Jersey City, N. J.—Estimated cost of proposed improvement of Hudson County Boule., placed at $240,000. Thomas Wasser, co. engr.

Morristown, N. J.—Bd. Aldermen Fred. R. Kellogg, member) intend improving 8 streets.

Somerville, N. J.—New bids will be received by Bd. Freeholders for construction of Chimney Rock road with state aid; bid of $67,041 of Richard & Gaston, Somerville, received in Dec., 1916, owing to increased cost of cement and steel, has been withdrawn.

New Brunswick, N. J.—Estimated cost to widen George St. placed at $76,000. Eugene J. McLaughlin, city clk.

Washington, N. J.—Surveys have been completed for proposed road, 8 miles long, between here and Brass Castle; estimated cost $210,000. Board of Freeholders, Belvidere, N. J.

Butler, Pa.—County Court has approved proposed construction of road from point on Argyle St. in Petrolia Boro. to point at U. P. cemetery on road leading from Fairview to Bruin, in Fairview twp., also bridge over Shakely Run in Parket twp., on Bruin and Shakely road. John M. Negley, clk. Q. S. court.

Meadville, Pa.—All bids received by city Feb. 19 to pave 28 streets were rejected. B. J. Miller, Jr., city engr.

Pennsylvania. — Pennsylvania Revenue Comn., Harrisburg, considering placing tax on all natural resources such as gas, coal and mineral products to raise $20,000,000 yearly for road and school construction work; measure will be presented to State Legislature for its approval.

West Middlesex, Pa.—Boro. will hold election March 7 to vote $15,000 paving bonds. F. H. Bair, clk.

Wilkinsburg, Pa.—Boro. intends grading, curbing and paving portions of Glenn and Hill Aves. with Ligonier Block and Cresson St. with vitrified brick. Wm. N. Baker, clk.

Centreville, Md.—County intends constructing 30 miles of road this year. F. F. Sneppe, co. engr.

Delaware.—State Legislature, Wilmington, considering bills authorizing $1,000,000 bonds to construct state roads, which counties throughout state favor, and $100,000 bonds to be issued by Sussex and Kent counties for proposed county roads.

Dover, Del.—State Legislature, Wilmington, considering bill authorizing Kent Co. to issue $750,000 bonds for proposed construction of permanent roads.

Georgetown, Del.—Estimated cost to pave Main St., from Georgetown to Du Pont Rd., with concrete and construct concrete curbs and gutters, placed at $15,000. C. M. Upham, engr., Georgetown, Del.; Robert A. Day, city clk.

Seaford, Del.—City intends paving total of 4000 ft. on High and Pine Sts. with cement on concrete base and constructing 8000 lin. ft. cement curb and gutters; estimated cost $40,000. Address W. H. Miller.

Corpus Christi, Tex.—City intends paving Leipard, Schatzel and Staples Sts. at estimated cost of $53,000.

Newport News, Va.—City voted $50,000 bonds for proposed street improvements.

Virginia.—Federal Good Roads Officials and State Highway Dept. (Geo. P. Coleman, comr. Richmond) have agreed on construction of Appalachian way from Greendale to Hansonville, for which Russell Co. Bd. Supervs., Lebanon, have appropriated funds for survey and construction work on sect. from Washington Co. line to Hansonville and then to Cumbow; estimated cost to construct 6¾ miles of this road from Greenville to Russell Co. line, in Norfolk Dist. (J. H. Mongle, road comr., Holston, Va.), Washington Co., placed at $5,000 per mile, greater part of this amount will be raised by private subscription; federal aid for 1916 and 1917 road work in southwest part of Virginia is $30,000, providing this section raises equal amount.

Parsons, W. Va.—County sold $150,000 Fairfax Dist. road bonds voted Dec. 29.

Paw Paw, W. Va.—Paw Paw Dist. voted $330,000 bonds to improve 22 miles of roads. Address Co. Clk., Berkeley Springs.

Winfield, W. Va.—County Court (B. S. McGhee, pres.) intends shortly to hold election in Curry Dist., to vote $150,000 bonds for proposed construction of hard-surfaced road from Big Sandy River through state capital to Fayette Co. line.

Beaufort, N. C.—City has selected Gilbert C. White, engr., Durham, N. C., to prepare plans for proposed work, for which $100,000 bonds were recently voted, largest part of which will be used for paving and sidewalk work; other work includes installation of water and sewer system.

Durham, N. C.—City intends paving numerous streets at estimated cost of $1,000,000. B. S. Skinner, mayor.

Elizabeth City, N. C.—City intends paving with brick and constructing stone curb and gutters on Southern Ave., Parsonage, Broad and other streets, about 15 miles in all. J. C. Commonder, city mgr.

Hickory, N. C.—City intends paving 3 miles of streets with asphalt, brick or concrete.

New Bern, N. C.—County Comrs. have been petitioned to construct roads, 16 ft. wide, leading out from this place, and pave same with vitrified brick; estimated cost $350,000. Address W. B. R. Guion.

Beaufort, S. C.—City will hold election March 12 to vote $15,000 bonds to improve portion of Bay St. H. G. Otis, city mgr.

Charleston, S. C.—State Senate, Columbia, authorized Feb. 14, Charleston Co. to hold election to vote $275,000 bonds for proposed permanent road construction work.

Darlington, S. C.—City voted $50,000 bonds for proposed street and drainage improvements. E. R. Cox, mayor.

Spartanburg, S. C.—Reported Co. Comrs. have appointed following highway comn. to supervise expenditure of $1,000,000 for construction and maintenance of roads in county for which bill asking authority to issue bonds for this amount has been introduced into State Legislature: John A. Law, pres. Central National Bank; R. E. Boggs, member Williard & Boggs, contrs., both of this place; C. M. Drummond, lawyer, Woodruff; Ben. M. Gramling, Gramling; Paul H. Leonard, Reidville.

South Carolina.—State Senate, Columbia, passed bill creating highway comn. of 7 members, and the automobile license bill when passed by upper house of legislature will enable state to obtain $1,200,000 from federal road fund, state's share, this year, being $143,000.

Griffin, Ga.—City will hold election March 21 to vote $45,000 bonds for proposed street improvements.

Statesboro, Ga.—City voted $60,000 bonds for proposed street paving work and improvements to water and light plant.

Fort Myers, Fla.—Reported highway road and bridge bonds for $190,000 will be sold March 12 by Bd. Comrs. Lee Co. J. E. Garner, clk.

Gainesville, Fla.—County Comrs. contemplate holding election to authorize issuance of $500,000 bonds for proposed road construction work.

Killen, Ala.—Surveys being made by W. A. McCalla, federal roads engr., Court House, of proposed road from here on east on way to Rogersville, for which federal government has appropriated $10,000 and county $10,000. James F. Koonce, co. judge, Florence.

Montgomery, Ala.—County intends improving Montgomery-Troy road, via Dublin and Orion, and using its share ($10,000) of Federal Aid to pay portion of cost.

Breaux Bridge, La.—Police Jury contemplates issuing $100,000 bonds for proposed road work. Address Pres. Police Jury.

Donaldsonville, La.—Road Dist. No. 2 intends selling $50,000 bonds for proposed road construction work. Address Clk. of Dist.

Gibsland, La.—Citizens recently authorized issuance of $65,000 bonds for proposed road work. Address Pres. Police Jury, Arcadia.

Hammond, La.—Election will shortly be held to vote $120,000 bonds for proposed road work. Address Pres. Police Jury.

Jennings, La.—City intends paving 16 blocks. John Gambel, mayor.

Kentwood, La.—Contracts about to be awarded by city for graveling 4 miles of road and constructing 15 miles of clay roads.

Lake Charles, La.—Contracts will shortly be awarded by Calcasieu Parish Police Jury (Fred. Shutts, parish engr.) to construct dirt roads between Niblett's Bluff and Starks and between Edgerly and DeQuincy; first road to be advertised will probably be road running south from Broad St. extension to Lake Charles-Hayes road. Sulphur-DeQuincy highway and road from Lake Charles to Hayes will be graveled—contract will call for simply hauling and spreading of gravel; total estimated cost of work for which surveys are being made is $900,000.

Ruston, La.—Road Dist. No. 3, Point Coupee parish, sold $40,000 good road bonds.

Brookhaven, Miss.—County sold $175,000 bonds of Dists. 2 and 4 for proposed road construction work.

Brookhaven, Miss.—Contracts will be awarded by Supervs. Dist. No. 2, in March, to construct 37 miles of graveled roads. Walter G. Kirkpatrick, engr., 704 Farley Bldg., Birmingham, Ala.

Chattanooga, Tenn. — Total estimated cost of authorized proposed paving on portions of East 9th St., with creosoted wood blocks; of West 9th St. and Vance Ave., with asphalt; Chamberlain Ave., Market St., for which bids on various paving material will be asked, placed at $85,000, of which city's share is $30,000 and for which amount bonds will be issued.

Jonesboro, Tenn.—County will hold election March 17 to vote $750,000 bonds for proposed construction of 256 miles of roads.

Lonsdale, Tenn.—City intends grading and surfacing numerous streets at cost estimated between $30,000 and $50,000. Dr. H. E. Christenberry, mayor.

Savannah, Tenn.—County intends constructing roads at estimated cost of $100,000.

Bowling Green, Ky.—County intends improving Bowling Green and Scottsville; Louisville and Nashville, south; Louisville and Nashville, north, and Bowling Green and Morgantown pikes at estimated cost of $7,500 each, and has asked State Highway Dept., Frankfort, for $15,000 to defray part of cost of improvement, County Fiscal Court having voted $15,000.

Henderson, Ky.—County intends macadamizing 15 miles of roads and purchasing some culvert material. D. R. Osburn, co. road engr.

Princeton, Ky.—County will hold election in May to vote $225,000 bonds for proposed construction of roads during 1917. Address Co. Judge.

Alliance, O.—Street improvement bonds for $39,515 will be sold March 24 by Chas. O. Silver, city aud.

Cleveland, O.—Estimated cost to improve Royalton road placed at $150,000; grading 2 miles of Fitzwater road, $40,000, both in Brecksville twp. W. E. Stinchcomb, co. engr., estimating cost to improve Wallings Mill Road.

See "Excavation, Drainage and Dredging."

Dayton, O.—County Comrs. intend extending Miami and Montgomery turnpike into this city from corporation line of Keowee St. to intersection of said street with Webster Ave., cost of which will be partly borne by Dayton & Troy Ry. Co.

City intends improving portion of Grafton Ave. at estimated cost of $12,230. John B. Harshman, clk. city com.

Doylestown, O.—City voted Feb. 19 $22,000 bonds for proposed pavement of Portage St. through village; street will be 30 ft. wide, 10 ft. of which will be paid for by Co. Comrs., Akron.

Elyria, O.—Estimated cost to pave 3 miles of Cleveland-Sandusky road between Lorain and Oak Point, placed at $60,000, will be borne by county, state and Black River twp.; county also intends improving Root road from Lake Shore road to Cromwell steel plant.

Lima, O.—Estimated cost for proposed road improvements, which include 2½ miles of brick pavement on Marion road, $63,500; ⅞ mile of brick pavement on North West St. to point where Lincoln and Dixie highways meet, $21,000, and from here for ½ mile of concrete pavement, $7,500; 1 mile of waterbound macadam on Lima-Findlay road from Waldorf school house, northwest, $9,000, will be divided as follows: State Highway Dept., $34,500; State, $16,000; Twps., $15,150; adjoining property owners, $10,100; County, $25,000, for which bonds will be issued.

Port Clinton, O.—County intends paving with brick, 4 miles of road, 15 ft. wide. John J. Joyce, Jr., co. surv.

St. Clairsville, O.—Street improvement bonds for $56,697 will be sold March 26 by Bert W. Hopkins, clk. bd. co. cmrs.

Sidney, O.—County intends constructing 30 miles of gravel and macadam roads in addition to roads to be constructed with concrete and brick by state. C. A. Mauer, co. highway supt.

Springfield, O.—Estimated cost to pave with asphaltic concrete portions of South Fountain Ave. (including short storm sewer), placed at $21,455, of Stanton Ave. $21,479. M. J. Bahin, city engr.

Delphi, Ind.—Petition has been presented to Co. Comrs. asking to improve highway, 3 miles long, in Washington twp. H. D. Good, co. aud.

Huntington, Ind.—County intends constructing about 19 miles of stone and gravel roads. Geo. E. Sprinkle, highway supt.

Monticello, Ind.—County Comrs. have been petitioned to construct tile drain on one side, grade and pave with gravel, 12 ft. wide, 18 in. deep in center and 12 in. on sides, road about 3 miles long in Big Creek twp., also grade, drain and pave with macadam, 12 ft. wide, 12 in. deep in center and 10 in. deep on sides Thomas Lear road, about 3 miles long, in Princeton twp. A. G. Fisher, co. aud.

South Bend, Ind.—Contracts will soon be awarded by Co. Comrs. to pave Lusher Ave. at cost estimated between $45,000 and $50,000.

Sullivan, Ind.—Contracts will soon be awarded by county to construct macadam roads in Jackson, Turman, Hamilton, Cass, Jefferson, Haddon and Gill twps.

Marshall, Mich.—County voted $800,000 bonds for proposed construction of roads this summer.

Berwyn, Ill.—City intends readvertising for bids to pave with asphaltic concrete portions of various streets and construct concrete curbs, as no bids were awarded Feb. 6. Osar N. Lindahl, secy. bd. local improvements.

Bloomington, Ill.—Contracts will soon be awarded by city to pave with creosoted wood blocks, 34 ft. wide on 6-in. concrete base, portion of Grove St., estimated cost $40,231; other streets, portions of which are to be paved, are: Main, $36,329; Front, $16,379; Walnut, $15,535; with concrete, West Washington, $8,500. E. H. Packard, city engr.

Grayville, Ill.—Contracts will soon be awarded by Bd. Local Impts. to pave about 3 miles of streets with brick and Tarvia at estimated cost of $127,000.

Gibson City, Ill.—Contracts will be awarded in April by city (Wm. Noble, mayor) for paving with brick on concrete base with cement filler and constructing sandstone curb, sewer inlets with 10-in. vitrified pipe connections in 8th St., 11,067 sq. yd. paving, estimated cost $28,063; paving 11,180 sq. yd., etc., in 9th St., $26,094; paving 11,067 sq. yd. in 11th St., $27,064. L. W. Lemon, eng., Clinton, Ill.

Greenup, Ill.—Contracts will soon be awarded by city (C. C. Kohler, mayor) to pave with brick on concrete base with cement filler and construct concrete curb and gutters on various streets; estimated cost $75,000. C. L. James, engr., Mattoon, Ill.

La Grange, Ill.—City intends paving 70,000 sq. yd. with asphaltic concrete. Edwin Hancock, engr.

Moline, Ill.—Estimated cost to repave 4 blocks of 5th Ave. with wood block and widen same to width of 42 ft. placed at $16,412. Lyle Payton, city engr.

Monmouth, Ill.—Election will shortly be held in county to vote $750,000 bonds for proposed hard surfacing of roads. Address Co. Road Supt. McClanahan.

Morrison, Ill. — Genesee twp. intends spending $25,000, Jordan twp. $20,000 and Sterling twp. $15,000 for proposed road work. Address Co. Clk.

Oak Park, Ill.—City intends paving, principally with asphaltic concrete, 176,000 sq. yd. on various streets. W. T. Sargent, comr. pub. wks. and supt. waterwks.

Ottawa, Ill.—Adams twp. intends spending $40,000 for proposed road work. Address Co. Clk.

Peoria, Ill.—State Highway Dept. (H. E. Surman, div. engr., People's Bank Bldg., Moline) intends constructing Mt. Hawley road, 2 miles long, $31,787, and Farmington road, 1 mile, $16,148, and paving Galena road, 2½ miles long, $38,079, in Peoria Co.

Pontiac, Ill.—Contracts will be awarded early in spring by city to pave with monolithic brick, 16,000 sq. yd. (estimated cost $44,566) in one dist. and 9669 sq. yd. ($27,452) in other dist. in north end, and with same material 6500 sq. yd., and with concrete 1800 sq. yd. in south end of town. J. C. Wade, city engr.

Rock Island, Ill.—City intends paving 2 portions of 5th Ave. with brick at estimated cost of $34,319; portion of 6th Ave. will probably be paved with asphaltic concrete. Wallace Trechler, city engr.

Alma, Wis.—County will hold election April 13 to vote $350,000 bonds for proposed road construction work.

Cedar Falls, Ia.—City Council considering paving and repaving with asphalt about 60 blocks, some of which are in business dist.

Marshalltown, Ia.—County intends grading 9 miles of roads. H. O. Hickok, co. engr.

Blue Earth, Minn.—County intends constructing this year 30 miles of roads and some culverts; material for corrugated metal culverts will be purchased by county. Ray J. Short, co. highway engr.

Eveleth, Minn.—Bonds will probably be sold in June for proposed paving of 9000 sq. yd. with Blome patent concrete base with 2-in. surface (material undecided), on Grant Ave. Address C. M. Dorway, city engr.

Minneapolis, Minn.—County has presented to State Legislature bill asking authority to issue $1,000,000 bonds for proposed paving, curb and gutter work, $500,000 to construct main or trunk line sewers, $200,000 to construct Franklin Ave. bridge, $100,000 to complete 3d Ave. bridge and $100,000 to construct and improve municipal baths.

Wichita, Kan.—County intends grading and graveling 30 miles and graveling and oiling 20 miles of roads. E. V. Moons, co. engr.

Fremont, Neb.—Contracts will probably be awarded shortly after April 1 by city for paving about 23,500 sq. yd. L. M. Roessler, city engr.

St. Louis, Mo.—Estimated cost to complete Kings Highway as crosstown boulevard from Chain of Rocks to Belldrive Park, overlooking Mississippi River, placed at $700,000 by City Plan Comn., of which city's share will be $365,000; plan includes constructing highway varying from 100 to 160 ft. in width and parked spaces ranging from 32 to 50 ft. in width. Address secy. Bd. Pub. Service.

Pine Bluff, Ark.—Citizens in this section of county forming road improvement dist. to construct highway 25 miles long from here to Altheimer and then to Madding. Address J. W. Ferguson.

Marion, Ark.—State Highway Dept., Little Rock, making surveys to construct with gravel 12 miles of Harahan bridge road from Crittenden Co. end of bridge, and have selected Ferree & McCleskey, engrs., Memphis, Tenn., to complete specifications, make estimates of cost and supervise construction of this road. Road Dist. No. 1, Crittenden Co., contemplates issuing $125,000 bonds and intends improving total of 40 miles of roads.

Albany, Tex.—County voted Feb. 15 to issue $100,000 bonds for proposed road construction work. R. S. Long, co. clk.; J. A. Kierny, co. judge.

Amarillo, Tex.—Street paving bonds for $50,000 will be sold March 6 by M. H. Hardin, city mgr.

Childress, Tex.—Petition being circulated in county to call election to vote $20,000 bonds for proposed road improvements. Address Co. Judge.

Dallas, Tex.—Bonds for $500,000 for improving roads, bridges and culverts will be sold March 19 by Co. Comrs.

Eureka, Tex.—County Comrs., Houston, considering petition asking to construct road, 6 miles long, from west of here to West Montgomery road through White Oak.

Hamilton, Tex.—City will hold election March 13 to vote $20,000 bonds to pave with crushed rock and Tarvia filler, street, 18 ft. wide, with 18-in. curbs, making 21 ft. between curbs. R. A. Kooken, mayor.

Henrietta, Tex.—City considering calling election to vote $20,000 bonds for proposed street improvements and $8,000 bonds for proposed enlargement of local water system.

Nome, Tex.—County Comrs., Beaumont, have granted petition of residents in southwest part of county to extend road from here south to rice and farm lands as property owners along proposed roadway promised necessary land to construct same, also on east and west highway will be constructed to connect with main southbound highway.

San Marcos, Tex.—Road Dist. No. 6, Hays Co., sold $75,000 bonds for proposed road construction work.

Waco, Tex.—City will hold election March 7 to vote $25,000 bonds for proposed paving, $25,000 for park purposes and $25,000 for proposed sewer work. John C. Davis, city secy.

Wichita Falls, Tex.—County intends holding election in March to vote $700,000 bonds, principally to improve main highways.

Frederick, Okla.—City contemplates paving 51 blocks this year.

Sallisaw, Okla.—County intends constructing highway over river to foot of Garrison Ave., Ft. Smith, Ark.; in addition, Rowland and Paw Paw Twps. have sold bonds for proposed road work.

Tishomingo, Okla.—Election will shortly be held in Garrett twp. to vote $28,500 bonds and in Harris twp., $14,000 bonds for proposed road and bridge work. R. P. Smith, chmn. bd. co. comrs.

Chehalis, Wash.—Contracts will shortly be awarded by county (Bertha Gage, aud.) for furnishing 10,000 bbl. cement, 4200 cu. yd. gravel and 2800 cu. yd. sand to be delivered as needed for road work; this summer, county intends constructing 1 mile of hard-surfaced road in Foistfort Valley. J. D. Neville, co. engr.

Everett, Wash. — County intends constructing about 60 miles of gravel roads this year and 30 miles in 1918 with 1915 bond issue. A. B. Dean, ch. deputy co. engr.

See "Road and Paving, Prices and Lettings."

Hartline, Wash.—County intends macadamizing North Central Highway from Sunset Highway, this place, to Vantage Ferry, and using road and bridge fund, as well as permanent 1917 highway fund for this purpose. C. L. Sanders, co. aud.; C. W. Duncan, co. engr.; both at Ephrata.

North Yakima, Wash.—City intends replacing wooden pavement on 125 blocks of streets with 6-in. concrete and awarding work in 2 contracts; estimated cost $45 per lot. N. A. Gilman, city engr.

Port Orchard, Wash.—Following road work is contemplated in county this year: 18 miles of state highways, 2 miles of permanent highways and 8 miles highway pending bond issue. Frank D. Gore, co. engr.

South Bend, Wash.—Plans being prepared by C. S. B. Henry, co. engr., to pave 1 mile of National Park highway with concrete and gravel 2½ miles of Peninsula highway No. 3-A. W. E. Lovering, co. aud.

Spokane, Wash.—Contracts will be awarded this summer by county (A. T. Anderson, aud.) for grade separation work at Dishman; estimated cost $30,000. A. R. Scott, co. engr.

Walla Walla, Wash.—County contemplates constructing between 15 and 20 miles of gravel roads this year. G. C. Cookerly, co. engr.

Wenatchee, Wash.—Contracts will be awarded early in spring to complete Blewett Pass highway; estimated cost $60,000. F. M. Berry, co. engr. Mathew Hickey, chmn. bd. co. comrs.

Hood River, Ore.—County intends constructing this summer 1 mile of experimental concrete road in dist. of big warehouses around Van Horn; estimated cost $12,000. H. H. Hurlburt, co. engr.

Oregon.—Lower House of State Legislature has passed bill authorizing issuance by state of $6,000,000 bonds for proposed highway construction work under supervision of State Highway Dept., Salem.

Portland, Ore.—County has $394,839 available for roads this year; some of roads to be improved are: Base Line road extension, $40,000; Bertha-Beaverton road, $35,000; Canyon road, $31,000; Hood road, $30,000; Vista House road, $28,000; Linnton-St. Helens road, $20,000 road up Marquam Hill to proposed site of new county hospital, $20,000. John B. Yeon, roadmaster, chmn. road budget com.

Salem, Ore.—City intends paving 30 blocks on various streets; contracts will be awarded as soon as type of material to be used has been definitely selected.

St. Helens, Ore.—County intends paving road 16 ft. wide with concrete from Court House to depot at West St. Helens; estimated cost $12,000. A. F. Barnett, co. clk.

Auburn, Cal.—10 miles of state highways will be constructed this year in county. Grover E. Conroy, co. surv.

Porterville, Cal.—City intends constructing sidewalks on practically every street not now so improved; estimated cost of work to be done by city forces, placed at $35,000; additional work will be let by private contract.

Sacramento, Cal.—City intends improving numerous alleys and streets; contracts for part of work will shortly be awarded. M. J. Burke, street comr.

Taft, Cal.—Plans being prepared by Edw. M. Lynch, engr., Glendale, Cal., to pave with bitulithic, Topeka or oil and screening surface on concrete base on principal streets and oil macadam on other streets in city; estimated cost $85,000.

Visalia, Cal.—Reported bonds for South Garden street improvement for $11,163 will be sold March 7 by Ida Markheim, city clk.

Yreka, Cal.—Proposed road from here to Etna, 30 miles long, will be 30 ft. wide, with maximum grade of 6 per cent. Address Co. Clk.

Holbrook, Ariz.—County will hold election March 20 to vote $125,000 bonds to improve and construct county roads. D. M. Moss, clk. bd. supervs.

Kingman, Ariz.—In dist. composed of Kingman, Oatman, Chloride, Yucca and Hackberry, election will shortly be held to vote $183,000 bonds for proposed construction of roads and streets and $17,000 to purchase rock crusher, trucks and road machinery. Address Co. Clk.

Provo, Utah.—County Comrs. considering holding election to vote bonds for proposed construction of county highways. E. R. Morgan, state road engr., Salt Lake City, approves proposed construction of 60 miles of concrete roads at estimated cost of $600,000 to $800,000 which includes 2 routes, one to Lakeview, other to Benjamin connecting up with Payson and Springville.

Lewiston, Idaho.—Estimated cost to grade and construct sidewalks and curbing in Normal Hill dist. placed at $17,000; address City Engr.

Toronto, Ont.—Estimated cost to pave Cherry St. with granite block, recommended by R. C. Harris, comr. wks., placed at $45,000.

Vancouver, B. C.—City Council considering resurfacing, estimated cost $31,200, replacing planking with grading and rocking, $80,418, and repairing boulevards, $50,000, total of 38 streets and lanes. F. L. Fellowes, city engr.

BIDS DESIRED

Albany, N. Y.—Until March 19, by Edwin Duffy, state comr. highways, for supplying bituminous material for use of State Highway Dept.; advertised in this issue.

Brooklyn, N. Y.—Until March 8, by Park Bd. (Cabot Ward, pres.) for furnishing, delivering and spreading 29,950 gal. of refined tar as per specifications on park roads and parkways; security 30 per cent.

Elmira, N. Y.—Until March 15, by Louis C. Andrews, city clk., for paving portions of West Washington Ave., Walnut St., and numerous other streets; advertised in this issue.

New York, N. Y.—Until Mar. 6, by Douglas Mathewson, boro. pres., for regulating, grading, paving and laying sidewalks on various streets; some of the streets are on portions Ellis Ave.; work includes about 28,850 sq. ft. two-course concrete; security $10,000; portions of E. 149th St.; work includes about 8700 sq. ft. two-course concrete, etc.; security $7,000.

Until Mar. 12 by U. S. Government for delivering 30,000 bbl. cement for Sandy Hook, N. J.

Watervliet, N. Y.—Until March 12, by Bd. Estimate and Apportionment (Chas. F. Polk, secy.), City Hall, for constructing granite block pavement on concrete foundation, on portions of 3d Ave., 9th St. and Broadway.

Atlantic Highlands, N. J.—Until March 13, by Boro Council (Wm. L. Wells, clk.), for furnishing one carload of road oil (300 gal.), also for constructing bulkheads, etc.; advertised in this issue.

Newark, N. J.—Until about March 29, by Bd. Street and Water Comrs. (M. R. Sherrerd, ch. engr.) for paving portion of Edwin Pl., Maple Pl., Chadwick and other sts., with bitulithic pavement on 6-in. concrete foundation, except Telford St., which is to be paved partly with wood block and part with asphalt on concrete foundation.

Paterson, N. J.—Until Mar. 14, by Geo. W. Botbyl, city clk., for macadam repairs on portions of Bloomfield, Brook Aves., and many other streets for constructing bituminous macadam and asphalt concrete repairs on Market St., Lexington, Main and Union Aves., and many other streets; also for delivering stone by rail at various points on N. Y., S. & G. I. R. R. and N. Y., S. & W. R. R.

South Orange, N. J.—Until March 20, by Twp. Committee, for about 1300 tons of 1½-in. trap rock and 200 tons ¾-in. and 1500 tons of broken trap-rock screenings, also about 60,000 gal. road oil.

New Castle, Pa.—Until Mar. 16 (new date), for grading and paving 6 mi. of highway, with concrete 16 ft. wide; address Thomas A. Gilkey, engr., 318-22 Mercantile Bldg., New Castle.

New Eagle, Pa.—Until March 9, for paving Main, Pine and Hemlock Sts.; work includes about 5900 ft. concrete curb and gutter; streets are to be paved with brick or block; cost about $30,000. A. L. McVicker, Monongahela, boro. engr.

Philadelphia, Pa.—Until Mar. 6 by Bureau Highways, for Sch. A, grading on portions of Bambrey, Clearfield, Columbia and many other streets; for Sch. B, repairing and patching asphalt streets; Sch. C, for furnishing and applying bituminous materials; Sch. D, for demolition of buildings on line of parkway, etc.

Baltimore, Md.—Until Mar. 6, by State Road Comrs. (Frank H. Zauck, chmn.), for about 7½ mi. concrete or oil bound macadam roads in Cecil and Howard Counties; advertised in this issue.

Marietta, Ga.—Reported desired until March 10, by V. B. Waddell, city clk., for paving various streets; cost about $40,000. K. T. Thomas, city engr.

Monticello, Fla.—Bonds for $52,000 for Special Road and Bridge Dist. No. 2, will be sold March 7 by Co. Comrs. S. D. Clarke, co. atty.

Lake Charles, La.—Until March 6, by Police Jury Calcasieu Parish (H. G. Chakley, pres.) for surfacing with gravel 52 miles of road.

Iuka, Miss.—Until March 8, by E. F. Parnell, city secy., for constructing 6 miles of gravel road.

Meridan, Miss.—Reported desired until March 6, by Good Roads Comn., Dist. No. 1 (J. O. Wise, secy.) to scarify, reshape and spread new material on Causeyville Road, about 50,000 sq. yd. in all; also for unloading cars and haul to same road (average haul 3 miles) 4000 tons crushed stone or other material. Address J. T. Pinkston, highway engr.

New Albany, Miss.—Until March 15, by Co. Highway Comrs. (R. L. Smallwod, secy.) for hard surfacing about 29 miles of road from Pontotoc Co. to Benton Co., $300,000 bonds have been authorized.

Barbourville, Ky.—Until March 14, by Read P. Black, clk. bd., for macadamizing road Bell Co. to Laurel Co. line; advertised in this issue.

Delaware, O.—Until March 6, by C. G. Rose, dir. pub. serv., for constructing and repairing sidewalks, curbs, gutters for the year 1917.

Lima, O.—Until March 8, by A. L. Metheany, dir. pub. serv., for grading, paving and curbing portions of Leland Ave., Franklin, North Kibby and Jackson Sts.

Toledo, O.—Until about March 15, by D. H. Goodwilly, dir. pub. serv., for paving with brick, concrete or asphalt, on 6-in. concrete foundation, Ellen, Miami and other streets; cost about $225,000; also for constructing sewers, cost about $30,000. H. A. McClure, comr. of eng. and const.

Albion, Ind.—Until about March 25, by Geo. Young, co. aud., to construct Hitler, Jackson, Weaver and Hire roads with brick and construct curbs on sand-cement base, 92,153 sq. yd. brick paving and 10,884 bbl. cement; estimated cost $167,653. Will T. Knox, co. engr.

Indiana.—By the Co. Comrs., for constructing following roads:

Mar. 8, Crown Point, gravel roads in West Creek and Hobart Twps.; Edward Simon, co. aud.

Crawfordsville, gravel road on line between Montgomery and Boone Cos.; Dr. W. F. Batman, co. aud.

Evansville, road in Knight Twp.; P. Beard, co. aud.

Laporte, roads in Pleasant and Johnson Twps.; Fred A. Hausheer, co. aud.

Mar. 9, Corydon, for constructing stone road in Harrison Twp.; Sam. C. Mauck, co. aud.

Mar. 12, Frankfort, for constructing 2458 ft. of gravel roadway in Center Twp.; Edward Spray, co. aud.

Marshall, Mich.—Until March 19, by Bd. Co. Road Comrs. (George R. Peet, chmn.) for constructing 5.76 miles of pavement, 18 ft. wide, of cement concrete bituminous concrete on brick concrete foundation.

Milwaukee, Wis.—Reported desired until March 14, by Fred. G. Simmons, comr. pub. wks., for furnishing city road oil in following quantities: No. 1, 50,000 gal; No. 2, 200,000 gal.; No. 3, 50,000 gal.; also for furnishing bituminous road binder, specification A calls for 200,000 gal., B, 100,000 gal.

Clinton, Ia.—Reported desired until March 13, by Frank W. Leedham, city clk., for paving portions of Camanche Ave., work includes about 10,500 sq. yd. vitr. brick pavement, also curb and gutter.

Ivanhoe, Minn.—Until March 6, by Co. Bd., for constructing all state roads during 1917. Karl A. Hansen, aud.

Minneapolis, Kan.—Until March 6, by A. D. Todd, city clk., to pave with asphaltic concrete on 4-in. concrete base Rothsay and Argyle Aves., about 2 miles; estimated cost $60,000. J. P. Reckard, engr., Minneapolis.

Osborne, Kan.—Reported desired until March 9 by City for 38,000 sq. yd. pavement; cost about $80,000.

Butte, Mont.—Until March 7, by A. A. Dockstader, city clk., for paving work in following districts: Dists. 223, 224, 225 and 227, work includes 2170 sq. yd. concrete, 2565 sq. yd. bitulithic pavement, together with curbing, etc.

Ritzville, Wash.—Reported desired until March 9, by L. Schragg, co. aud., for grading, graveling and constructing culverts and bridges for 5½ miles on permanent highway No. 1B.

Seattle, Wash.—Reported desired until March 13, by Co. Comrs., for grading and graveling 3½ miles of Julia Blinn highway; cost about $33,000.

Coquille, Ore.—Until March 7, by Co. Comrs. (L. W. Oddy, clk.) for constructing portions of highway in 3 sections under the $364,000 allottment. C. S. McCulloch, Bandon, co. surveyor.

Los Angeles, Cal.—Reported desired until March 26, for constructing asphalt, stone, brick and bituminous pavements and concrete and granite curb and gutters; also for constructing storm and sanitary sewers. Address H. B. Ferris, secy. bd. pub. wks.

San Bernardino, Cal.—Until March 12, by Bd. Superv. (L. R. Patty, clk.) for 37,200 sq. ft., concrete paving on Colton Ave., grading, paving on 8th and O Sts., in Colton; also for 43,000 sq. ft. concrete paving on Ontario Blvd., 97,088 sq. ft. on Euclid Ave., in Ontario; also 42,460 cu. yd. excavation and 183,840 sq. ft. concrete paving on Central Ave., in Chino.

Modesto, Cal.—See "Reinforced Concrete."

Until Mar. 12 by Bd. Superv. (Hugh Benson, clk.) for grading, excavating and constructing concrete pavements and c. i. pipe culverts on Newman-Westley Road, 9.464 miles Crows Landing Road, 9.114 miles; Crows Landing Road south from Glendora, 8.73 miles; Waterford Road between Empire and Waterford, 7.771 miles; Glendora Road, 7.483 miles; Oakdale, 2 roads, 7.409 miles; Grayson Road, 4.005 miles; Denair, 3.81 miles, and Irwin City Road, 2.208 miles.

San Fernando, Cal.—Until March 12, by City Clk., for 16,000 sq. ft. decomposed granite pavement, 1230 lin ft. cement curb, 6100 sq. ft. cement walks, 2500 sq. ft. concrete gutter on Morningside Court; 14,000 sq. ft. similar paving, etc., on Library St. and 3855 sq. ft. similar paving on Macneil St.

Ventura, Cal.—Until March 13, by Bd. Supervs. (J. B. McCloskey, clk.) for constructing 7.54 miles of 4-in. concrete pavement, together with iron pipe and concrete culverts; certified check for 10 per cent to accompany bid.

Nogales, Ariz.—Until March 27, by Bd. Superv., for constructing new Ruby post office road; cost about $35,000.

York, Ont.—Until March 7, by Chmn. and Members, Bd. Control, for road oil, asphalt, tar, sand stone for York Highway Comn. Address E. A. James, 57 Adelaide St., East Toronto.

PRICES AND LETTINGS

★*Indicates award of contract.*

Albany, N. Y.—Following are bids opened by State Highway Comn., 55 Lancaster St., Albany, N. Y., for road work, Feb. 19:

Broome Co., Maine-Glen Aubery, 5.35 miles, Louis Mayersohn, Albany, N. Y., $71,302; Castle Creek-Whitney Point, 6.92 miles, T. H. Gill Co., Binghamton, N. Y., $108,801. Hamilton Co.: Morehouseville-Piseco, Part 1, 6.82 miles, St. Lawrence Constr. Co., Inc., Albany, N. Y., $129,144. Chenango Co., Afton-Coventry, Part 1, and Afton-Bettsburg, 7.12 miles, Paddelford & King, Sherburne, N. Y., $78,446; Woodruff-Edgecomb Co., East Branch, N. Y., $82,097; Frederick A. Biggi, Albany, N. Y., $82,526; Frank Lewis & Sons, Harpersville, N. Y., $91,180. Clinton Co., Altona-Obers Corners, 5.95 miles, Louis Mayersohn, Albany, N. Y., $68,482; Spellman-Oliver Co., Chateaugay, N. Y., $69,770; Frederick A. Biggi, Albany, N. Y., $70,478; Richard Hopkins, Troy, N. Y., $75,981. Columbia Co.: Spencertown-Austerlitz, 5.02 miles, Antonio Colarusso, Hudson, N. Y., $66,313. Cortland Co., Marathon-Cortland, Part 4, 3.33 miles, S. P. Hull, Cortland, N. Y., $35,351; Rossney Contg. Co., Buffalo, N. Y., $36,115; Dana W. Robbins Co., Inc., Utica, N. Y., $36,444. Erie Co., East Aurora-Lancaster, Part 2, 3.54 miles. Bison City Eng. & Contg. Co., Buffalo, N. Y., $57,139. Erie Co., South Newstead-Peters Corners, 0.91 mile, Cold Spring Cons. Co., Buffalo, N. Y., $17,384. Marilla-Marilla Station, 2.97 miles, H. E. Rainer, Buffalo, N. Y., $35,490; Bison City Eng. & Contg. Co., Buffalo, N. Y., $35,521; Cold Spring Cons. Co., Buffalo, N. Y., $42,014. Niagara Co., Lewiston Heights-Lewiston, 0.61 mile, Kennedy Construction Co., Albany, N. Y., $24,475. Oswego Co., Parish-Camden, 5.63 miles, Spellman-Oliver Co., Chateaugay, N. Y., $73,887. Warren Co., Chestertown-Hague, Part 4, 4.59 miles, Kingsbury Cons. Co., Hudson Falls, N. Y., $127,919. Westchester Co., Westchester Ave., 1.09 miles, Harlem Contg. Co., 2 Rector, New York City, $36,979; Frank E. Murray Contg. Co., Inc., Portchester, N. Y., $38,449; Daley & Merritt, Portchester, N. Y., $38,979. For completion of Redwood-St. Lawrence County Line, 4.60 miles, Jefferson Co., Harry W. Roberts, Utica, N. Y., $61,428; Arthur F. McConville, Ogdensburg, N. Y., $66,864.

Feb. 20:

Broome Co., Whitney Point-Lisle, 2.78 miles, Thomas L. Ryan, Binghamton, N. Y., $42,525; T. H. Gill Co., Binghamton, N. Y., $43,165; Nathan E. Young, Jeffersonville, N. Y., $43,539; F. P. Meckes, Long Pond, Pa., $44,330. Chenango Bridge-Kattelville, 0.4108 mile, Frank Steno, Binghamton, N. Y., $50,774; Thomas L. Ryan, Binghamton, N. Y., $50,780; Woodruff-Edgecomb Co., East Branch, N. Y., $51,014; Frederick A. Biggi, Albany, N. Y., $52,029. Monroe Co., Co., Scottsville-West Henrietta, 4.56 miles, Michael H. Ripton, Rochester, N. Y., $78,618; Dale Engineering Co., Utica, N. Y., $78,971. Nassau Co., Sheridan Boulevard-Burnside Ave. and Rockaway Turnpike, 2.99 miles, H. J. Mullen Contg. Co., Jamaica, N. Y., $114,209. Erie Co., Ellicott Creek-Gettzville, 2.90 miles, Bison City Eng. & Contg. Co., Inc., Buffalo, N. Y., $27,095; Cold Spring Cons. Co., Buffalo, N. Y., $27,204; Louis H. Gipp, Buffalo, N. Y., $27,999. Erie Co., Transit-Wolcottsburg, 3.02 miles, Cold Spring Cons. Co., Buffalo, N. Y., $36,633; Bison City Eng. & Contg. Co., Inc., Buffalo, N. Y., $37,376. Lancaster-Clinton St., 2.34 miles, Bison City Eng. & Contg. Co., Inc., Buffalo, N. Y., $40,515. Tompkins Co., South Lansing-Myers, 2.46 miles, Dana W. Robbins, Inc., Utica, N. Y., $36,907; Kennedy Cons. Co., Albany, N. Y., $38,902. Wayne Co., Clyde-Resort, Part 3, 1.88 miles, Hendrickson-McCabe Cons. Co., Inc., Syracuse, N. Y., $16,560; Frederick A. Biggi, Albany, N. Y., $16,900; Kennedy Cons. Co., Albany, N. Y., $18,533; Chambers & Barnes, Rochester, N. Y., $18,540. Seneca Co., Waterloo Village-So. Virginia St., 0.5 mile, S. S. Soper & Sons, Seneca Falls, N. Y., $3,694; Kennedy Cons. Co., Albany, N. Y., $3,896; J. W. Brennan Cons. Co., Geneva, N. Y., $3,950. St. Lawrence Co., Gouverneur-Edwards, Part 2, 4.60 miles, Henry P. Burgard Co., Buffalo, N. Y., $71,869; Richard Hopkins, Troy, N. Y., $78,999. Rensselaer Co., Stone Schoolhouse-North Petersburg-Vermont State line, 4.95 miles, C. W. Tryon, Poland, N. Y., $75,606. For completion of 1.85 miles, Saugerties Village, Ulster Co., Frederick J. Kinney Co., Inc., Buffalo, N. Y., $41,237. For furnishing and delivering of broken stone, Counties of Onondaga and Wayne, B. S. contract No. 73, Sidney & Johnson, Norwich, N. Y., $14,691; Pathfinder Cons. Co., Fulton, N. Y., $14,734; McGreevey, McGuigan & Baum, Elmira, N. Y., $15,032; E. E. Wells, Savanah, N. Y., $15,340.

★**Niagara Falls, N. Y.**—All bids received by State Highway Dept. (I. J. Norris, secy.), Albany, N. Y., Feb. 19, to improve state route No. 18, on Lewiston-Niagara Falls road, rejected, as they exceeded estimate; will readvertise soon. Kennedy Constr. Co., Albany, N. Y., at $24,475, low bidder.

★**Camden, N. J.**—Contract awarded by Bd. Freeholders to J. S. Fisles & Son, Camden, N. J., to pave Lindenwold and Cedar Brook roads.

★**Flemington, N. J.**—Contract awarded by Bd. Freeholders to S. B. Demarest, Seawarren, N. J., at $13,858, to construct Lamington-New Germantown road.

★**Ocean City, N. J.**—Contract awarded by Co. Comrs., Cape May, C. H., to E. Riley Mixner, Goshen, N. J., at about $74,000, to construct road between 55th St., this place, and Willard Ave., Corson's Inlet, over Main Channel, Middle Thorofare and Weakfish Creek.

★**New Castle, Pa.**—Following are 3 lowest bids opened Feb. 15 by Co. Comrs. (James Lamoree, clk.) to construct with concrete New Castle-New Wilmington road, 5¾ miles long: Schilling Constr. Co., Youngstown, O., $139,682 (awarded contract); M. Bennett & Sons, Indiana, Pa., $174,224; Woods & Golder Constr. Co., New Castle, Pa., $176,306.

★**Philadelphia, Pa.**—Contracts awarded by Bureau of City Property (bids opened Feb. 7) to construct concrete curbs, copings, posts and balustrades and concrete pavements, as follows: To Chas. T. Groswith, 3435 Chestnut St., at $23,723, in Wm. Lanier Park, and at $10,000, in Bartram Park; to Edw. Fay & Son, 2 South Mole St., at $8,640, on 24th and Jackson Sts.

★**Maryland.**—Contracts awarded by State Roads Comn., Baltimore, Md., to E. Ward Brown, Port Deposit, Md., to construct road between Rising Sun and Porter's Bridge, and to Holt Constr. Co., Denton, Md., at $60,000 to construct road between Fairlee and Edesville.

Baltimore, Md.—Lowest bids opened Feb. 15 by Bd. Awards for paving various streets, total estimated cost $1,327,000, were: Contract 142, P. Flanigan & Sons, Harford road and B. & O. RR. tracks, $225,997 ($1.69 per sq. ft. for sheet asphalt); Contract 144, Lawson Constr. Co., Norfolk, Va., $188,943; Contract 143, Baltimore Asphalt Block & Tile Co., Monroe and Lorman Sts., $127,585; Contract 145, American Paving & Contr. Co., Montebello Ave. and Jenkins Lane, $121,893; Contract 146, Patrick F. Reddington & Son, 416 Falls Road, $24,287. J. Myers Hedian, secy., Paving Comn., 214 E. Lexington St.

★**Princess Anne, Va.**—Contract awarded by Co. Comrs. and State Highway Dept., Richmond, to McGuire Constr. Co., Norfolk, Va., to construct 10 miles of roads.

★**Roanoke, Va.**—Contracts awarded by city to Tinsley Constr. Co., Roanoke, Va., to pave with macadam 12,000 sq. yd. on 9th St. ($10,000 available) and at $4,000, to pave with concrete around Municipal Bldg.

★**West Virginia.**—Contracts awarded by State Roads Comn., Charleston, Feb. 20, to Hatfield Constr. Co., Huntington, W. Va., to construct 5 miles of concrete road in Fayette Co., and to R. M. Hudson Constr. Co., Charleston, W. Va., to pave 3.6 miles of road in Kanawha Co.

★**Asheville, N. C.**—Contracts awarded by city to Asheville Paving Co., Asheville, to do all sheet asphalt, asphaltic concrete and brick paving, and to Simmons-Mayrant Co., Charleston, N. C., to do all wood block paving in city this year.

★**Charleston, S. C.**—Contract awarded by Sanitary and Drainage Comn. to R. L. Morrison to grade and surface 8 miles of Magnolia Gardens highway along Ashley River from turn-off from main road to upper gate of Runnymede.

★**Chicago Junction, O.**—Following are bids opened Feb. 19 by city for paving portions of Park St. and Woodland Ave.: C. H. Au & Son, Mansfield, O., $15,907 (awarded contract); W. W. Hatch, Goshen, Ind., $17,139; Hombarger & Wagar, Sandusky, O., $20,689.

★**New Albany, Ind.**—Contract awarded by county Feb. 8 to W. F. Woodruff, Louisville, Ky., at $10,010, to construct Greenville-Georgetown road in Greenville twp.

★**Wabash, Ind.**—Contracts awarded by county (bids opened Feb. 6) to Philip Hipskind, Wabash, Ind., at $14,500, to construct Lynn road in Noble twp., and to Grossnickle Constr. Co., North Manchester, Ind., at $10,249, to construct Ring road in Pleasant twp. Frank P. Kircher, co. aud.

★**Kalamazoo, Mich.**—Contract awarded by county (bids opened Feb. 19) to Boyes & Blandford Co. Grand Rapids, Mich., at $38,600, to construct cement concrete trunk line road, 14,800 ft. long. H. C. Cunny, co. engr.

★**Cambridge, Ill.**—Contract awarded by city to Public Service Constr. Co., Omaha, Neb., at $15,428, to pave portion of Prospect St. and improve other streets in business dist.

★**Illinois.**—Contract awarded by State Highway Comn., Springfield, Feb. 14, to H. L. Wedding, Cairo, Ill., at $17,971, to pave with Novaculite macadam section C of state road in Alexander Co.

Waupun, Wis.—Following are lowest bids opened by city Feb. 15 to pave Main St., involving 7451 cu. yd. excav., 8739 lin. ft. curb and gutter work, 20,906 sq. yd. paving, 890 lin. ft. retaining curb and 10 water valve manholes: With Trinidad asphaltic concrete, White Constr. Co., Milwaukee, Wis., $44,652; with reinforced concrete, The Miner Co., Richland Center, Wis., $46,419; with bitulithic, General Constr. Co., Minneapolis, Minn., $54,588; with Barr vitrified brick, C. Petersen Constr. Co., Kenosha, Wis., $57,236. E. B. Parsons, engr., Jefferson, Wis.

★**Cedar Rapids, Ia.**—Contract awarded by city (bids opened Feb. 16) to Ford Paving Co., Cedar Rapids, Ia., at about $140,000, to pave 62,000 sq. yd. and grade 18,000 cu. yd. on 2 1/3 miles of streets.

★**Traer, Ia.**—Contract awarded by City to Dearborn Constr. Co., Waterloo, Ia., at $60,000 to pave 23 blocks with Texico asphaltic concrete.

★**Montevideo, Minn.**—Contract awarded by City (B. O. Bonn, clk.) to Fielding & Shepley, 216 University Ave., St. Paul, Minn., at $53,793, to pave 17,537 sq. yd. on First St. and 660 sq. yd. on Lincoln Ave. with creosoted wood blocks on 7-in. concrete base.

★**St. Paul, Minn.**—Contracts awarded by city (A. W. Austin, purchasing agent, for paving with creosoted wood blocks, as follows. To Fielding & Shepley, 216 University Ave., on Prior Ave., at $18,239; on Grand Ave., at $125,998; to Thornton Bros., Scandinavian-American Bank Bldg., on Como Ave., at $45,703; on Mounds Boule., at $48,185; on Rice St., at $84,665; both contrs. of St. Paul. (Bids opened Feb. 13.)

★**Leavenworth, Kan.**—Contract awarded by City, Feb. 10, to E. L. Meek, Springfield, Mo., at $64,840 ($1.44 sq. yd.) to pave Bway. with tar macadam, giving maintenance bond for 5 years and $18,000 cash guarantee for upkeep of street for following 10 years.

★**Madison, S. D.**—Following are bids opened Feb. 19 by city (Chas. A. Trimmer, city engr.) for paving with (a) bitulithic, 13,556 sq. yd. and with (b) sheet asphalt, (c) wood block, y. p., (d) cement concrete, 20,000 sq. yd. on concrete base, and constructing 17,000 lin. ft. concrete curb and gutters on portions of 6th St. N. E., 2d St. N. E. and Egan Ave., total cost $90,000 (awarded contract); C. H. Atkinson, Watertown, S. D., (a) $2.15 per sq. yd., (b) $1.85 and $1.98 per sq. yd., (c) $3.11 per sq. yd., (d) $1.60 to $1.97 per sq. yd.; C. J. Welsh Constr. Co., Minneapolis, Minn., (c) $2.69 per sq. yd.; E. B. Flinn, Sioux City, Ia., (d) $1.65 to $1.84 per sq. yd.

★**Kansas City, Mo.**—Contract awarded by Park Board to M. Hassa, 2615 Oak St., Kansas City, Mo., at $56,550, to grade 12th St., involving 130,000 cu. yd.

★**Stanberry, Mo.**—Contract awarded by city to Edgar Main, Liberty, Mo., to pave 12,300 sq. yd. with brick on 5-in. concrete and 1½-in. sand base., with asphalt filler, for which $27,000 is available. Black & Veatch, engrs., Interstate Bldg., Kansas City, Mo.

★**Beeville, Tex.**—Contract awarded by City to Vibrolithic Constr. Co., Dallas, Tex., at $48,000, for paving various streets.

★**Clarksville, Tex.**—Contract awarded by City (bids opened Feb. 19) to Kaw Paving Co., Topeka, Kan., to pave 44,000 sq. yd. and construct 24,000 lin. ft. curbing. J. R. Welch, city clk.

★**Dallas, Tex.**—Contracts awarded by city for approximately 2½ miles of paving, as follows: To Vibrolithic Constr. Co., Terminal Bldg., $78,062, on portions of Parry and East Grand Aves., Ash Lane, Stonewall and Hood Sts.; to Standard Engr. & Constr. Co., 113 Martin St., at $71,614, on portions of 8th and Peak Sts. and Thomas Ave.; to Texas Bitulithic Co., Praetorian Bldg., $55,942, on portions of Colson and Leonard Sts., Columbia and East Grand Aves. Contrs. all in Dallas.

★**Arlington, Wash.**—Following are 4 lowest bids received by county (W. C. Bickford, co. engr., Everett, Wash.) to pave with concrete Bond Road No. 10: H. J. Kaiser, Everett, Wash., $104,105; J. W. Hoover, Seattle, Wash., $110,502; Bancroft & Morgan, Everett, Wash., $111,231; P. J. McHugh, Seattle, Wash., $112,474.

★**Bellingham, Wash.**—Contract awarded by city Feb. 13 to Knute Sauset, 711 Carolina St., this place, at $18,042, to pave 18 ft. wide for 2 miles Dakin St. with concrete. Co. Comrs. have agreed to bear half of expense.

★**Everett, Wash.**—Contract awarded by county (Mae Weatherbee, co. aud.) to Bancroft & Morgan, Everett, Wash., at $74,287, to pave Bond Issue Road, No. 28.

All bids received by county (W. C. Bickford, co. engr.) for constructing Bond Issue Road No. 29, were rejected; new bids will be asked. Low bidder, H. J. Kaiser Co., Everett, Wash., at $25,706.

★**Goldendale, Wash.**—Contract awarded by county (Geo. W. Borden, co. engr.) to H. O. Barnes, Laurel, Wash., at $10,788, to construct Glenwood-Goldendale road.

★**Port Townsend, Wash.**—Contract awarded by county to James H. Coyne, this place, at $17,540, to construct permanent highway No. 4, and at $7,619 to construct 1½ miles of Ludlow Center Highway.

Seattle, Wash.—Following are lowest bids received by Bd. Pub. Wks. (C. B. Bagley, secy.) for paving work: West McGraw St., Independent Asphalt Paving Co., Northern Bank & Trust Bldg., $117,715; Rainier Ave., Washington Paving Co., L. C. Smith Bldg., $38,335; both contrs. of Seattle.

★**Berkeley, Cal.**—Contract awarded by Bd. Supervs., Oakland, to W. J. Schmidt, Cedar and Sacramento Sts., Berkeley, at $59,196, to pave county's portion of San Pablo Ave. through this city and Albany.

Fresno, Cal.—Following are bids opened Feb. 15 by Bd. Supervs. for furnishing road oil: 75 per cent asphalt, 14 point gravity: Highway Surfacing Co., 40,000 bbl., $1.50 per bbl., f.o.b., Roadamite; Standard Oil Co. of California, 1727 San Ferdinando St., Los Angeles, 80,000 to 100,000 bbl. $1.65 per bbl., f.o.b., Segurs. 65 per cent asphalt, 14 point gravity, Union Oil Co. of California, Union Oil Bldg., Los Angeles, 80,000 to 100,000 bbl., $1.25 per bbl., f.o.b., Hazelton.

★**Mill Valley, Cal.**—Contract awarded by town (bids opened Jan. 30) to Ransome-Crummings Co., Oakland, Cal., at $86,224, to pave Miller, Blithedale and Throckmorton Aves. Will Falley, town clk.

Pasadena, Cal.—Lowest bid opened by City Comrs., Feb. 13, to pave 115,000 sq. ft. on Glenarm St. with 5-in. concrete, was from Thomas C. Breitenstein, 465 Van Wyck St., Pasadena, at $11,155.

★**San Rafael, Cal.**—Contract awarded by county to A. J. Fairbanks, Willits, Cal., at $22,761, to construct highway, 4 miles long, in place of road that will be submerged by Alpine reservoir.

★**Santa Barbara, Cal.**—Contract awarded by city to Paul & Caldwell, Stockton, Cal., at $10,611, to construct cement sidewalks, concrete curbs and gutters, and catch-basins in portions of Laguna, Canal, Victoria and other streets.

★**Ottawa, Ont.**—Contract awarded by city to Tarvia Patterson Co., Montreal, Que., at $97,000, to pave with Tarvia various roads.

RAILWAYS
Steam and Electric

PROPOSED WORK

Tonawanda, N. Y.—Tonawanda to urge the International Ry. (E. J. Dickerson, vice-pres., Buffalo) to construct a trolley line from its proposed extension to present river road line through the town and along Fletcher St., connecting with company's present Niagara Falls branch.

Newark, N. J.—Pennsylvania R. R. Co. (Alex. C. Shand, ch. engr., Philadelphia) will lay out a freight yard covering 26 acres on the Newark Meadows.

Burnsville, N. C.—Legislature has been asked to authorize an election in county to vote $50,000 bonds to aid in construction of proposed Black Mountain Railroad from Cane Creek to Burnsville, to connect with Carolina, Clinchfield and Ohio. (L. H. Phetteplace, gen. mgr., Erwin, Tenn.)

Kenner, La.—Orleans, Kenner El. Ry. considering construction of a line from here to Destrehan, about 6 miles. J. Lorenz, 127 S. Rampert St., New Orleans, reported interested.

Waynesboro, Tenn.—J. Howe Peyton, pres. Nashville, Chattanooga & St. Louis RR., has been petitioned to extend the Centerville branch from Allens Creek to Waynesboro, a distance of 14 miles.

Lockbourne, O.—Scioto Valley Traction Co. (F. A. Davis, gen mgr.), Columbus, plans to improve its line from here to Columbus, a distance of about 11 miles.

Toledo, O.—Bay Terminal Ry. Co. (R. C. Pew, gen. mgr.), connecting road between the Wheeling Belt and the Lake Shore, increased capital from $100,000 to $300,000, to be used for improvements and to purchase rolling stock.

Youngstown, O.—Reported Lake Erie & Eastern R. R. (J. A. Atwood, ch. engr., Pittsburgh), a subsidiary of the N. Y. Central lines, plans to extend its western terminus to eventually connect with Ravenna.

South Bend, Ind.—New York Central (H. B. Reinsagen, asst. prim. engr.) reported preparing plans for elevation of tracks through this city.

Ashland, Wis.—Ashland Light, Power & St. Railway Co. (A. E. Appleyard, gen. mgr.) considering extension from Hurley to Montreal, also construction of line between Washburn and Ashland.

Omaha, Neb.—Press reports state that during 1917 Union Pacific RR. (R. L. Huntley, ch. engr.) will make improvements, including the following: Double tracking, $4,000,000; shops, etc., $3,000,000; rails and fittings, $3,700,000; sidings and industry tracks, $1,600,000; fuel and water stations, $1,000,000; miscellaneous improvements, including block signals, $3,000,000 to $6,000,000.

Mandan, N. D.—Plans being made to construct an electric railway between here and St. Anthony. Subscriptions to the amount of $60,000 have been received from farmers. It is planned to connect the Northern Pacific main line with Chicago, Milwaukee & St. Paul Ry. at Freda or Raleigh. F. C. Massingham, pres. Missouri Slope Fair Asso., Mandam, is promoter.

Lefor, N. D.—Work will probably start in the spring on construction of Dickinson, Lefor & New Leipzig R. R. (Adam A. Lefor, pres.), to connect with Chicago, Milwaukee & St. Paul R. R. at New Leipzig.

Butte, Mont.—Northern Pacific R. R. (O. B. Johnson, div. supt., Livingston) will spend about $2,000,000 in improvements this year, including following: double-tracking from Bozeman to Logan, enlarging yards in Butte and Laurel.

Lebanon, Mo.—Reported electric railroad to be constructed from here to Edith. C. F. Robertson, of Edith, reported interested.

Midland, Tex.—Midland & Northwestern RR. (T. W. Thaxter, ch. engr.) will lay tracks on its extension from here to seminole, about 65 miles.

Dallas, Tex.—C. E. Schaff, receiver for the Missouri, Kansas & Texas R. R., will petition U. S. District Court for permission to borrow $3,000,000 on bond issues for improvements on company's properties in Texas, elevation of tracks through North Dallas and to eliminate grade crossings and ballasting of tracks south of Dallas and south of Ft. Worth.

North Yakima, Wash.—Geo. T. Reid, asst. to pres., Northern Ry. Co., reports company will extend its Cowich branch from here, 7 miles into Tieton district, this year.

Portland, Ore. — Spokane, Portland & Seattle Railway Co. (A. M. Lupfer, ch. engr.) plans following improvements during 1917: Renewing 7 miles of trestle near John Day River; new buildings; steel spans in overhead bridge crossing in Reserve St., and river embankment at Vancouver, Wash.; concrete linings, tunnels, 16 and 18, 2822 ft. on Pasco division, $100,000; reconstructing bridge over Klickitat River near Goldendale; renewing approaches of river bridge near Wilsonville on Oregon Electric; overhead bridge on Forest Grove branch of same line; earth fills and bridge renewals on Oregon trunk line from Fallbridge to Bend; new bridge over Spokane River on Spokane & Inland Empire unit.

Oregon-Washington RR. & Navigation Co. (S. Murray, ch. engr.) plans following improvements during 1917: 3 miles of double tracking between Meacham and Kamela over Blue Mountains, cost $65,000; 7000 tons 100-lb. steel rails will be laid between Baker and Huntington, about 30 miles, cost $400,000; 8 heavy freight engines on mountain division between Pendleton and La Grande and 1 snowplow, cost $400,000; 4 large wooden bridges on line between Pendleton and Spokane will be filled. It is estimated that about 600,000 cu. yd. of earth will be removed in this work, cost $400,000; small bridges and trestles at various points on system will be replaced with concrete arches; large trestle on Spokane-Ayer line will be filled, cost $90,000; 7 grade crossings in eastern part of city, to cost $600,000; bascule bridge to be constructed across St. Joe River, on the Coeur d'Alene branch, cost $75,000; construction of a 10-mile branch from Beaver branch in the Coeur d'Alene district to provide shipping facilities for mines in that immediate district.

Bonners Ferry, Idaho.—F. G. Gavin, supt. Spokane Div. the Great Northern Ry. Co., Spokane, reports that his company will construct 5000 ft. of new sidetracks in its yards here; cost $20,000.

Toronto, Ont.—R. C. Harris, comr. of works, has estimated cost of single-track extension of Bloor St. car line on Bloor St. from Quebec Ave., at $30,000.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK

Lawrence, Mass.—Plans were prepared by Chas. T. Main, 201 Devonshire St., Boston, for erecting 2-story 62 x 104 ft. creamery, to cost $50,000, for H. P. Hood & Sons Co., 494 Rutherford Ave., Charlestown, Mass.

Rockwood, N. Y.—Plans were prepared by Morrell Vrooman, 10 N. Main St., Gloversville, for erecting power plant to cost $300,000 for Rockwood Mfg. Co. (Donald W. Hyde, pres., 26 N. Main St., Gloversville).

Schenectady, N. Y.—Reported General Electric Co. will erect new foundry to present plant to cost $250,000.

Tottenville, S. I., N. Y.—Standard Shipbuilding Co., 44 Whitehall St., New York, completed plans for erecting boiler and plate shop at its plant at Shooter's Island to cost about $250,000.

Utica, N. Y.—Plans being prepared by J. S. Schneider, 1019 Hickorty St., for erecting power plant to cost $50,000 for Bosser Corp. (Frank Kernan, pres.), 1019 Hickorty St.

Newark, N. J.—R. Neumann Hardware Co., 9 St. Francis St., Newark, will erect addition to present plant to cost $100,000.

Harrisburg, Pa.—Plans prepared by Fahnestock & Raidabaugh, 401 Patriot Bldg., for erecting 2-story and basement, 160 x 120 ft. factory, store and office building to cost $150,000 for Evangelical Publishing House of United Evangelical Church, 201 N. 2d St. Care J. J. Nungesser, northwest corner 3d and Reilly Sts.

Lancaster, Pa.—Stehli Silk Corp., Lancaster, will erect 3-story, 70 x 282 ft., silk mill here.

Philadelphia, Pa.—Hess-Bright Mfg. Co., Front & Erie Sts., receiving bids for erecting 1 and 2-story brick and steel factory, 80 x 200 ft., at Front and Erie Sts. Watson & Huckle, archts.

Bellevue Worsted Mills, Wister St., has purchased site and will erect textile mill to cost about $250,000 at Huntington Park Ave. and 16th St.

Philadelphia, Pa.—Windsor Chocolate Co., 24th and Hamilton Sts., will erect 4-story addition, 79 x 117 ft., to their plant, to cost $100,000.

Shreveport, La.—Southwestern Gas and Electric Co. plans enlarging power plant to cost $100,000.

Lorain, O.—Reported that Lorain County Electric Co., will erect $500,000 electric light and power plant here.

Toledo, O.—Bids being received by archts. for erecting 4-story, 60 x 80-ft. machine shop to cost $75,000 for Kent-Owens Machine Co., 1401 Nicholas Bldg. DeVore & McGormley, 384 Nasby Bldg., archts.

Lafayette, Ind.—Plans were prepared by R. P. Daggett, Indianapolis, for erecting new armory at Purdue University to replace one recently destroyed by fire, to cost $125,000.

Muncie, Ind.—Plans were completed by Cuno, Kibele, Johnson Bldg., for erecting 2 and 5-story and basement, 40 x 100-ft. factory and office building to cost $120,000, for Warner Gear Co. R. P. Johnson, mgr.

Eloise, Mich.—Bids being received by McFarlane, Maul & Lentz, archts., 1257 David Whitney Bldg., Detroit, for erecting cold storage plant to cost $60,000 for Wayne Co. S. M. Keenan, supt. of poor, Eloise.

Milwaukee, Wis.—See "Reinforced Concrete."

Milwaukee, Wis.—Plans being prepared by A. C. Eschweiler, Goldsmith Bldg., for erecting 108 x 127 ft. warehouse, garage and repair shop to cost $60,000, for Wisconsin Telephone Co. W. O. Seymour, supt., 183 5th St.

Sheffield, Ia.—Company being formed to erect brick and tile factory building to cost $250,000. C. L. Smith and C. J. LeValley reported interested.

Hibbing, Minn.—Plans prepared by Tyrie & Chapman, Auditorium Bldg., Minneapolis, for erecting 1-story power house to cost $200,000 for city. D. D. Haley, city clk.

Newport, Minn.—Revised plans being prepared by Haugen-Newstrom Co., Iron Exchange, Minneapolis, for erecting packing plant for Farmers' Terminal Packing Co., 919 Commerce Bldg., St. Paul, to cost $400,000.

Omaha, Neb.—Standard Furnace and Supply Co., 411 S. 10th St., purchased site at 14th and Jones Sts. and will erect factory to cost $70,000.

Bismarck, N. D.—Contract will soon be let for erecting new packing plant for Farmers' Equity Improvement here to cost $300,000.

Scranton, N. D.—Plans were prepared by Emil Fernholz for erecting bricquetting plant of 10 units to cost $500,000, for Johnson Fuel Co.

Kansas City, Mo.—Plans being prepared by Sargent & Lundy, engr., 72 W. Adams St., Chicago, for erecting power plant to cost $6,000,000 for Kansas City Light & Power Co. (J. H. Lucas, pres.), 15th and Grand Aves.

Houston, Tex.—Cotton Seed Oil Co. of Texas has purchased site and will erect mill near here to cost $100,000, work to begin March 1.

Alva, Okla.—Kansas Flour Mills Co. (J. B. Hupp, gen. mgr.), Wichita, Kan., will erect new flour mill here on site of old mill, to cost $200,000.

Guthrie, Okla.—Reumcli-Braun Co. will enlarge ice plant at cost of about $150,000.

Tacoma, Wash.—Atlas Foundry Co. plans erecting additional buildings to house their industry; cost $60,000.

Shelley, Idaho.—Shelley Mercantile Co. will erect large flour mill and 50,000 bushel elevator and warehouse in spring.

Amherstburg, Ont.—Plans being prepared for erecting and work will begin April 1 on plant of Brunner Mond Co. (Gordon S. Rutherford, mgr.), to cost $300,000, for manufacture of alkali products.

Dundas, Ont.—Chapman Engine Co. will rebuild factory recently destroyed by fire with loss of $50,000.

Hamilton, Ont.—Plans being prepared by Prack & Perrine, Hamilton for erecting and equipping new furnaces, foundry and plant of Carbon & Alloy Steels Co., to cost $300,000. H. J. Waddell, Canadian Drawn Steel Co., mgr.

Kincardine, Ont.—See "Reinforced concrete."

London, Ont.—Quaker Oats Milling Co. purchased site and plans erecting addition to factory to cost $100,000.

Nipigon, Ont.—S. Marks is preparing plans for erecting pulp and paper mills to cost $1,000,000.

Toronto, Ont.—Queen City Foundry Co. will rebuild plant partially destroyed by fire with loss of $100,000.

Winnipeg, Man.—Swift Canadian Co. purchased site and will erect abattoir to cost $3,000,000.

Council plans enlarging Point du Bois power plant to 100,000 hp. at cost of $150,000. Ald. Sparling, chmn. electrical dept.

Ladysmith, B. C.—Ladysmith Smeltering Co. plans erecting extensions to cost $100,000. W. J. Watson, mgr., preparing plans.

PRICES AND LETTINGS

★Indicates award of contract.

★Waynesburg, Pa.—Contract awarded by Waynesburg Products Corp. to Fuel City Mfg. Co., Clarksburg, W. Va., for erecting carbon black plant to cost $51,000.

★Plaquemine, La.—Contract awarded by W. P. Coping, New Orleans, for erecting refinery for Southern Oil Ref. Co., at a cost of $60,000.

Dubuque, Ia.—Contract awarded by W. J. Fitzgerald, Beloit, Wis., for erecting 7 and 10-story and basement factory building for Farley-Loetscher Co., to cost about $125,000.

BUILDINGS
Public and Private

PROPOSED WORK

Fall River, Mass.—Plans prepared by L. A. Gordon, Granite Blk., for erecting brick theater building at Bedford & 15th Sts. to cost $50,000, for N. S. Landelin, 14 Choate St.

Springfield, Mass.—Julius Lane will erect 4-story, 70 x 147-ft. brick office building at Boulevard & Westfield Sts. to cost $60,000.

New Haven, Conn.—Plans being prepared by Johnson & Burns, Inc., 26 State St., Hartford, for erecting parish house, to cost $65,000, for Calvary Baptist Church. Rev. J. McGee, pastor.

Brooklyn, N. Y.—Plans being prepared by Thos. W. Lamb, 644 8th Ave., New York City, for erecting 1-story, 126 x 300 ft., theater building, to cost $800,000, for Marcus Loew, 1492 B'way, New York City.

Cortland, N. Y.—Plans prepared by Holmes & Winslow, 103 Park Ave., for erecting bank and office building to cost $100,000 for Cortland Savings Bank, 111 Main St. (C. O. Walras, pres.).

Bayonne, N. J.—Bd. Educ. plans erecting addition to School No. 11 at cost of $50,000.

Bridgeton, N. J.—School bonds for $125,000 will be sold March 6 by Samuel P. Fithian, city controller.

Elizabeth, N. J.—Trustees of Elizabeth General Hospital plan erecting additions to cost $500,000.

Elizabeth, N. J.—Elizabeth General Hospital plans erecting new hospital building to cost about $500,000; $250,000 available.

Englewood, N. J.—Plans prepared by Guilbert & Betelle, 665 Broad St., Newark, N. J., for erecting 2-story and basement Lincoln Public School Bldg for Bd. Educ., to cost $125,000.

Jersey City, N. J.—Bd. Educ. plans erecting two school buildings in 2d Ward and erecting additions to schools on Erie and 12th Sts.

Paterson, N. J.—Bd. Trustees of Paterson Orphan Asylum plans erecting additions to cost $75,000. F. C. Van Dyck, pres.

North Bergen, N. J.—Plans were prepared by Hensel & Weir, 809 Savoy St., West Hoboken, N. J., for erecting 2-story, 130 x 140 ft., school building No. 3, to cost $60,000, and 2-story school building No. 7, to cost $60,000, for Bd. Educ. Owen Smith, pres.

Plainfield, N. J.—State Military Bd. approved purchase of property on E. Front St. for erecting new armory for Company K, 2d Regiment; cost $50,000.

West New York, N. J. (P. O. Weehawken).—Town plans erecting 14-room addition to school building No. 5 at Hudson Ave. and 10th St., to cost $50,000.

Athens, Pa.—Town will rebuild high school building recently destroyed by fire with loss of $75,000.

Chester, Pa.—General W. G. Price, Chester, who is developing Eyre tract (300 acres) as site for restricted community, plans erecting public school to cost about $60,000 as its center.

Ft. Loudon, Pa.—Contract will soon be let for erecting hotel building to cost $100,000. S. F. Hackert, archt., Bessemer Bldg., Pittsburgh. L. & R. Heyn, Schenley Hotel, Pittsburgh, reported interested.

Hanover, Pa.—Fund of $65,000 acquired by Young Men's Christian Assn. for erecting new building to cost about $75,000.

Harrisburg, Pa.—Contract will soon be let for erecting 2-story, 48 x 155 ft. addition and alterations to club house, to cost $60,000 for L. O. O. M. E. L. Rinkerbach, chm. bldg. com., 1215 N. 3rd St. C. Harry Kain, archt., 317 Chestnut St.

Reading, Pa.—Schuylkill Seminary has secured appropriation of $102,000 for erecting administration building.

Wilmington, Del.—Plans completed by E. Canby May, Wilmington, for erecting 5-story, brick, steel, stone and concrete Y. W. C. A. building to cost about $250,000.

Salisbury, Md.—Plans being prepared for erecting U. S. post office by Supv. Archt. Jas. A. Wetmore, Treasury Dept., Washington, D. C., to cost $90,000.

Swissville, Pa.—See "Reinforced Concrete."

Chevy Chase, D. C.—Plans prepared by Snowden Ashford, District Bldg., Washington, for erecting addition 2-story and basement 3 wings, 40 x 80 ft. each, to school building for Dist. of Columbia, Washington, to cost $80,000.

Washington, D. C.—Plans being prepared by Clark Waggman, 1211 Conn. Ave., for erecting addition and altering of Home Savings Bank (B. F. Saul, pres.), at 7th and Mass. Aves. N. W., to cost $100,000.

Wilmington, Del.—See "Reinforced Concrete."

St. John's Episcopal Church, Concord Ave., has purchased site and will erect addition to parish house to cost about $100,000.

Petersburg, Va.—Plans being prepared by Chas. M. Robinson, Times-Dispatch Bldg., Richmond, for erecting two school buildings, to cost $100,000, 3-stories. F. M. Martin, clk. bd. educ.

Huntington, W. Va.—Contract will soon be let for erecting 7-story and basement, 70 x 120-ft. hotel building for J. S. Farr, owner, to cost $100,000. Meanor & Sweeny, archts., R. & P. Bldg.

DeKalb, W. Va.—Plans were prepared by Walker & Chase, Atlanta, for erecting courthouse to cost $100,000. Bids will soon be received. R. J. Freeman, co. comr.

Gaffney, S. C.—Building Committee appointed by Chamber of Commerce and Agriculture plans erecting $50,000 hotel here.

Greensboro, S. C.—City purchased $150,000 site in center of town and will erect court house to cost $200,000.

Hammond, La.—Plans being prepared for erecting modern stores and office building to cost $50,000 for N. H. Williams.

New Orleans, La.—Plans being prepared by A. J. Nelson, L. & L. & G. Bl., New Orleans, for erecting roadhouse and restaurant to cost $75,000.

Columbus, Miss.—City issued $75,000 bonds for erecting high school building.

Louisville, Ky.—Plans being prepared by D. X. Murphy & Bro., 1405 5th St., for erecting dormitory addition to Pendennis Club to cost $150,000.

Cincinnati, O.—Reported Metropole Hotel Co. plans erecting $1,000,000 addition to property at 6th and Walnut Sts.

Cincinnati, O.—Bonds for $500,000 for erecting court house and jail will be sold March 13, by Albert Reinhardt, clk. co. comrs.

Cleveland, O.—See "Excavation, Drainage and Dredging."

Massillon, O.—Plans prepared by Thos. Bruce Boyd, 286 5th Ave., New York City, for erecting 1 and 2-story and basement, 25 x 100 ft. bank building for Union Nat'l Bank Bldg., 75 Erie St. (J. H. Hunt, pres.); cost $65,000.

Norwood, O.—School bonds for $125,000 will be sold March 12 by Harold Ryland, clk. bd. educ.

Pioneer, O.—Plans being prepared by W. H. Nicklas, Euclid Bldg., Cleveland, for erecting 2-story and basement, 80 x 120 ft. high school building, to cost $75,000. G. M. Ely, pres. bd. educ.

West Park, O.—Plans were prepared by Barter, Coghlan & Saunders, 311 Electric Bldg., Cleveland, for erecting two 2-story, 75 x 76 ft. grade school buildings, to cost $50,000. Fred C. Smith, pres. bd. educ., taking bids.

Wooster, O.—School bonds for $50,000 will be sold March 15 by H. H. Miller, clk. bd. educ.

Highland Park, Mich.—City's school district recently voted $550,000 bonds for erecting addition to high school building and $50,000 for erecting grade school building.

Centralia, Ill.—Reported Ill. Central RR. (A. S. Baldwin, ch. engr.) will erect depot and freight station here early this spring, to cost about $250,000.

Kewanee, Ill.—Plans being prepared for erecting addition to St. Francis Hospital to cost $75,000. Address Sister Superior.

Dousman, Wis. — Reported Wisconsin Masons will erect home on their farm near here to cost between $75,000 and $100,000.

Marinette, Wis.—Ex-Senator Isaac Stephenson, local, offered site for proposed Marinette-Menominee Hospital to cost about $100,000.

Burlington, Ia.—Citizens voted $500,000 bond issue for erecting new high school building.

Estherville, Ia.—Plans prepared by J. E. Nason, 622 Corn Exchange Bldg., Minneapolis, Minn., for erecting theater, store and office building, 3-story and basement, to cost $150,000, for F. H. Graff, Estherville, taking bids.

Webster City, Ia.—Plans being prepared by J. H. Albright, 10 Olson Bldg., Ft. Dodge, for erecting 40-room addition and remodeling of Williams Hotel. B. F. Payne, owner; vost $60,000.

Albert Lea, Minn. — Government plans erecting addition to U. S. Post Office here to cost $50,000.

Minneapolis, Minn.—Plans for erecting municipal auditorium and convention hall, to cost $1,500,000, received almost unanimous endorsement at series of special public meetings held by city council.

Kellogg Mackay Co. plans erecting 4-story building adjoining present business building at 9th Ave. S. and 4th St., to cost $50,000.

Minneapolis, Minn.—Contract will soon be let for erecting 7-story and basement, 60 x 100 ft., hotel building, to cost $200,000. Perry Crosier, 940 Plymouth Bldg., archt.

Thief River Falls, Minn.—Government may erect $55,000 federal post office building here.

Willmar, Minn.—Citizens voted $100,000 bonds for erecting junior high school building.

Manhattan, Kan.—Bd. Educ. plans erecting $40,000 junior high school building and $26,000 for erecting grade school building. Special levy will be held for raising funds.

Larned, Kan.—Plans will be prepared by Hulse Architect Co. for erecting of Bedford stone, with brick lining, marble wainscoting and masonic floors; $100,000 court house, 75 x 100 ft.

Pratt, Kan.—Work will begin in early spring on 3-story $60,000 hospital for this city.

Fremont, Neb.—Bonds for $100,000 for erecting court house and jail will be sold March 13 by W. E. Barz, co. clk.

Omaha, Neb.—Plans being prepared by Latenser & Sons, 626 Bee Blk., for erecting Commercial High School building to cost $220,000. J. E. Ernst, pres. Bd. Educ.

Butte, Mont.—Ben Bank Realty Co. plans erecting hotel building, to cost $100,000, in the spring.

Butte, Mont.—Site for proposed Salvation Army hall has been selected and building will cost $75,000.

Terry, Mont.—J. W. Drummond plans erecting 3-story, 60 x 90 ft., pressed brick hotel building to replace Drummond Hotel recently destroyed by fire; cost $50,000.

Cape Girardeau, Mo.—Frisco RR. (Supt. Office, Tower Grove Sta., St. Louis) will erect new depot here near foot of Independence St. as soon as weather permits; structure will cost $100,000.

Bromwood, Tex.—Brown County courthouse will be remodeled at cost of $60,000, work to begin at once.

Comanche, Tex.—Plans were prepared by Jas. A. Wetmore, Supv. Archt. Treasury Dept., Washington, D. C., for erecting U. S. post office here, to cost $50,000.

Dallas, Tex.—Officials of American Exchange Nat'l Bank plan erecting 16-story bank building at Main St. and Scollard court; cost about $500,000.

Chickasha, Okla.—Election will be held Feb. 28 for issuing $95,000 bonds for school improvements. O. Coffman, mayor.

Stillwater, Okla.—Plans were prepared by Hair Tonini & Bramblett, 417 Terminal Bldg., Oklahoma City, for erecting 4-story 80 x 90 ft. court house, to cost $100,000. W. T. Keys, co. clk.

Spokane, Wash.—Bd. Educ. will remodel present Administration Building instead of erecting addition to Lewis & Clark High School building; cost $50,000. Dr. C. F. Eikenbary, pres. bd.

Seattle, Wash.—See "Reinforced Concrete."

Yakima, Wash.—Plans will be prepared by Weatherwax & Sons for erecting $100,000 theater building here. Fred Mercy reported interested.

Portland, Ore.—See "Railroads."

Bakersfield, Cal.—Reported school bonds for $90,000 will be sold March 7 by F. E. Smith, co. clk.

Fresno, Cal.—Reported Bank of Italy will erect 8-story building in near future.

Visalia, Cal.—Plans were completed by Swartz & Swartz, Rowell Bldg., Fresno, for erecting Elk building to cost $60,000.

Cordova, Alaska.—See "Reinforced Concrete."

Juneau, Alaska.—See "Reinforced Concrete."

Halifax, N. S.—Plans being prepared by A. R. Cobb, Tramway Bldg., for erecting brick and stone church to cost $55,000.

Sydney, N. S.—Reported school bonds for $90,000 will be sold March 7 by F. E. Smith, co. clk.

Hamilton, Ont.—See "Reinforced Concrete."

Hamilton, Ont.—Clothing stores of Grafton & Co., James St., recently destroyed by fire with loss of $100,000 will be rebuilt at once.

Ft. William, Ont.—Chapples., Ltd., Department store, recently destroyed by fire with loss of $125,000, will rebuild as soon as possible.

Toronto, Ont.—Bd. Educ. (W. C. Wilkinson, secy., 263 College St.) plans erecting school building to cost $75,000.

Bd. Educ. plans erecting 15-room school building in locality of Winchester St. and Rose Ave. schools to cost $90,000.

Welland, Ont.—Woolworth Co. preparing plans for erecting new brick store to cost $60,000.

Winnipeg, Man.—See "Reinforced Concrete."

Vancouver, B. C.—Imperial Bank has purchased site and will erect building to cost $500,000.

BIDS DESIRED

Taunton, Mass.—Until March 9, by James E. Walsh, chmn. pub. property committee, for constructing additions and alterations to high school building; certified check for $3,000 to accompany bid. Kilham & Hopkins, 9 Park St., Boston, archt.

Bridgeport, Conn.—Until March 14, by Jas. A. Wetmore, superv. archt., treas. dept., Washington, D. C., for remodeling U. S. post office; advertised in this issue.

Albany, N. Y.—Until March 20, by W. W. Wotherspoon, supt. pub. wks., for constructing terminal on west side of Hudson River north of 12th St. bridge in City of Cohoes; also for Cont. 154, 159, including construction of an additional Taintor gate at Lyons and embankment on north canal bank between Newark and Palmyra; grading terminal sites, etc.

New York, N. Y.—Reported desired until March 21, by T. F. Devine, 81 West End Ave., on sub-contracts, for erecting 5-story brick and reinforced concrete garage, 100 x 100, at southwest corner of West End Ave. and 65th St.; cost $110,000. Jas. C. Cocker, 2017 5th Ave., archt.

Johnstown, Pa.—Reported desired until March 19, for erecting 5-story, 49 x 126 ft., lodge building for Lodge No. 451, K. of P. (H. F. Kahl, secy., 708 Sherman St.); cost about $50,000. H. M. Rogers, archt., Johnstown Trust Bldg., Johnstown.

McKeesport, Pa.—Until March 7, by McKeesport Lodge No. 41, Loyal Order of Moose, National Bank Bldg., for erecting 2-story brick, steel and terra cotta lodge building. C. R. Moffitt, Masonic Bldg., McKeesport, archt.

Jacksonville, Fla.—Reported desired until March 18, by Jacksonville Terminal Co., for erecting station; L. G. Wallis, engr., Jacksonville; K. M. Murchison, 101 Park Ave., New York, N. Y., archt.

Columbus, O.—Until Mar. 6, by Joint Comn., of State Bds. of Agr. and Administration, for erecting coliseum at State fair grounds; cost $200,000. H. C. Holbrook, archt., Outlook Bldg.

Pontiac, Mich. — Reported desired until March 8, by Bd. Educ., for erecting proposed additions to high central and Wilson school buildings.

Mason City, Ia.—Reported desired until Mar. 19, erecting 8th grade school building with auditorium and gymnasium, to be known as Jefferson School; E. R. Bogardus, archt., Mason City.

Waukee, Ia.—Reported desired until Mar. 15, by Bd. Educ. (Bert Carter, secy) for erecting 2-story and basement 116x67-ft., brick, cut stone and terra cotta high school building; cost about $50,000; C. K. Denman, 436 Utica Bldg., Des Moines, archt.

Council Grove, Kan.—Until Mar. 12, by L. M. Loomis, clk., bd. educ., for erecting high school building; separate bids for heating, plumbing and ventilating; J. H. Felt & Co., archts., Kansas City, Mo.

Harper, Kan.—Until Mar. 19, by A. E. Crocker, city clk., for erecting 2-story city hall building; separate bids on heating and plumbing; S. S. Voigt, archt., Wichita.

Nebraska City, Neb.—Until Mar. 22, by Bd. Educ. (Fred Hellier, secy.), for constructing 2-story and basement grade school building; separate bids for heating and plumbing; W. F. Gernandt, archt., Keeline Bldg., Omaha.

Merced, Cal.—Until March 12, by Bd. Trustees Merced Union High School Dist., for erecting high school building; alternate bids for reinforced concrete, hollow tile and brick construction; $150,000 available. Allison & Allison, archts., 1405 Hibernian Bldg., Los Angeles.

San Pedro, Cal.—Until about March 15, by Major Harry W. Newton, U. S. A., Altoon Bldg., 12th St. and Pacific Ave., for erecting 31 reinforced concrete, brick and hollow-tile buildings at Ft. McArthur, consisting of barracks, guardhouse, administration building, etc.; cost about $400,000.

Tropico, Cal.—Until about March 20, by Forest Lawn Cemetery Assn., 1219 Hollingsworth Bldg., Los Angeles, for erecting reinforced concrete and granite and marble mausoleum containing 3000 crypts.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Philadelphia, Pa.** — Contract awarded John R. Wiggins Co., Inc., for erecting 13-story, 112 x 235 ft., granite, limestone, brick, terra cotta, concrete and steel apartment house to cost $2,500,000.

★**Marion, S. C.**—Contract awarded Becking & Son, Chattanooga, for erecting U. S. Post Office here, to cost $50,000.

★**Shreveport, La.** — Contract awarded Central Const. Co., Houston, Tex., at $247,000 for erecting City Nat'l Bank Building.

★**Sioux Falls, S. D.**—Contract awarded Sioux Falls Constr. Co., at $86,868, for erecting 3-story and basement, fireproof, city

★**Spokane, Wash.** — Contract awarded Porter Bros. Railway Exchange Bldg., Portland, Ore., for erecting 4-story, 80 x 50 ft., granite, brick and terra cotta business building on Howard and 1st Sts. for Mrs. T. W. Symonds, Sr.; cost about $200,000.

Juneau, Alaska.—See "Reinforced Concrete."

Montreal, Que.—See "Reinforced Concrete."

★**Montreal, Que.**—Contract awarded Atlas Constr. Co., 3 Belmont St., for erecting $500,000 theater for Loews, Ltd.; bids wanted on all trades.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK

Biddeford, Me.—Plans are being considered by the Clark Power Co., Dayton, a subsidiary of the Pepperell Mfg. Co., for constructing hydroelectric power plant on Saco River near Union Falls, to supply energy for Pepperell and York Mills.

Cape May, N. J.—City Comn. has approved plans for constructing pier and convention hall 200 x 200 ft. on beach front; cost about $100,000. Sherman S. Sharp, archt., Cape May.

Stone Harbor, N. J.—Council approved plans for constructing recreation pier, 130 x 1120 ft. on east side of Boardwalk; cost $18,000.

Trenton, N. J.—Bd. of Commerce & Navigation has made grant to Lehigh Valley RR. (E. B. Ashby, ch. engr., New York City) for 1324 ft. of New York Bay riparian land at Caven Point, Jersey City, to be used by railroad company for waterfront improvements.

Philadelphia, Pa.—Delta Shipbuilding & Drydock Co., incorporated with a capital of $5,000,000, to construct drydocks, piers, etc. Percy B. Gibson, Geo N. Deas, New York, N. Y., among incorporators.

Baltimore, Md.—Ordinance has been introduced into Council authorizing the Baltimore Drydock and Shipbuilding Co. to construct a 420 x 20 ft. pier into waters of the north Patapsco.

Newport News, Va.—City voted $50,000 bonds for improving municipal boat harbor. Address Mayor.

Baldwin, Mich.—Grand Rapids and Muskegon capitalists, it is reported, are interested in proposition to develop water power on the Pere Marquette River, near Baldwin. Options have been secured on 16 miles of river lands above the site, as well as the purchase of 2 miles outright, it is said, have been secured by V. W. Montgomery, Reed City.

Cheboygan, Mich.—Plans have been prepared by Gardner S. Williams, 134 S. La Salle St., Chicago, Ill., it is reported, for rebuilding the hydroelectric power plant owned by the Cheboygan Electric Light & Power Co.

Petoskey, Mich.—City Comn. contemplates making extensive improvements to the power and light plant; upper dam to be discontinued and water flumed to the lower dams, where two wheels will be installed.

Centerville, S. D.—Centerville Milling Co. (R. W. Nash, supt.) contemplates installation of large engine, additional boiler, another water wheel and generator and constructing concrete dam.

Cotter, Ark.—Major Elliott J. Dent, Bankers Trust Bldg., Little Rock, making preliminary surveys for constructing seven locks and dams along the upper White River to complete project started years ago.

Sultan, Wash.—Two notices of appropriation of water (1500 ft. of water per second each) from the Sultan River in the Sultan Basin have recently been filed with the Co. Aud., dams, flumes, tunnels, etc., will be used for the diversion of the water. G. D. Hite, Sultan, is interested.

Los Angeles, Cal.—Imperial Valley Irrigation has secured a permit from the War Dept. for constructing temporary dam across the Colorado River to raise the water level at the intake at Hanlon's Heading to avert water shortage in Imperial Valley threatened by low stage of river; practically all of Imperial County as well as Imperial Irrigation Dist. which comprises approximately 750,000 acres secures its entire water supply from the river; district has engaged C. E. Grunsky and Geo. G. Anderson, consulting engrs., to make recommendations, and they advise constructing intake, dredging canals, extending intake canal to a point a mile above the present intake, etc., now being constructed at cost of about $3,250,000; considering bond election to secure other needed improvements.

Los Angeles, Cal.—Election held Feb. 22 voted in favor of issuing $4,450,000 bonds for flood control work in county. J. W. Reagan, co. flood control engr.

Newport Beach, Cal.—Contract will soon be let by Bd. of Trustees and Harbor Comn. of city for constructing jetty 1500 ft. long, 10 ft. wide at top, at entrance of Newport Harbor; cost $100,000.

Madera, Cal.—Preliminary plans being prepared by Claire & Stafford, engrs., Madera, for irrigation work for Madera Irrigation Dist., consisting of constructing dam 228 ft. high and 900 ft. long at top to impound 100,000 acre ft. of water in the headwaters of Fine Gold Creek, dam 372 ft. high, 1022 ft. long, to impound 250,000 acres ft. on same creek, below mouth of Willow Creek, dam north of Table Mountain near Friant to impound 50,000 acre ft., dam across lower north fork of San Joaquin River at mouth of Fine Gold Creek to divert water to 50,000 acre ft. reservoir, canal 20,790 ft. long about 2 miles of which will be carried through tunnels through range of hills to carry water from the San Joaquin diversion, also main outlet canal from same reservoir along foot of the hills and across Fresno River and Raymond branch of the Southern Pacific Ry. to the Chowchilla River approximately 25 miles. Dams to be of earth and stone with concrete walls and foundations to bed rock.

Santa Barbara, Cal.—A. B. Cook, city engr., to prepare plans and specifications for constructing permanent sea wall on 2750 ft. frontage and paving on East Boulevard.

San Dimas, Cal.—Surveys and plans have been completed by Ernest Wilcox, engr., 1239 Ardmore Ave., Los Angeles, for constructing large storage reservoir covering area of 491.5 acres and to contain 17,400 ft. of water, 970 ft. above sea level, south of San Dimas in San Jose hills on land owned by Whittier Land & Development Co., consisting of diversion dam at mouth of San Dimas Canyon 20 ft. high and 103 ft. long on top, constructed of monolithic concrete arched to a radius of 100 ft.; leading from dam will be a conduit 3.83 miles long lined with concrete and masonry 12 ft. on top, 6 ft. on bottom and 7 ft. deep, having capacity of 1500 cu. ft. per second; main dam of reservoir will be 130 ft. high, 785 ft. long, of multiple arch type and constructed of reinforced concrete; besides main dam there will be two earth fills approximately 30 ft. high and 650 ft. long on top, and have a concrete core, rolled earth face and rock rip rap on the water side. Geo. W. Sturtevant, consult. engr., 38 S. Dearborn St., Chicago, Ill.

Winnipeg, Man. — Surveys have been made by the British North American Hydro Electric Power Co., Winnipeg, in connection with proposed power development in Manitoba, which will involve an expenditure of several million dollars.

BIDS DESIRED

Albany, N. Y.—See "Buildings."

Atlantic Highlands, N. J.—See "Roads and Paving."

Longport, N. J.—Until March 17, by Boro. for constructing municipal seawall; cost about $275,000. Case Coast Protection Corp., engrs., 1170 Broadway, New York, N. Y. J. R. D. Bray, village recorder.

Philadelphia, Pa.—Until March 15, by Dept. Wharves, Docks and Ferries (Geo. S. Webster, dir.), 550 Bourse Bldg., for pier construction in Delaware River, etc.; advertised in this issue.

Fort Pierce, Fla.—Until March 6, by P. C. Eldred, co. clk. and aud., for constructing hydraulic embankment in south end of St. Lucie Co.

St. Louis, Mo.—Until March 6, by Dept. Pub. Wks., for constructing hurdle dikes extending into Mississippi River, in vicinity of Chain of Rocks; plans may be obtained from Dept. Pub. Utilities, Room 312, City Hall.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**New York, N. Y.**—Contracts awarded Raymond Concrete Pile Co., 140 Cedar St., city, for concrete piles in foundations of following buildings: Swift & Co., Kansas City, Kan., and another in St. Joseph, Mo.; Firestone Tire & Rubber Co., S. Main St., Akron, O.; Devoe Reynolds & Co., 565 Smith St., Brooklyn, N. Y. Ernest Green, archt., 5 Beekman St., New York City; for flour mill and warehouse for Kansas Flour Mill Co., Ava, Okla., Von Unwerth & Wilson, engrs., 722 Dwight Bldg., Kansas City, Mo.; Edgemount Theater, Chester, Pa.; Montrose Improv. Co., Brooklyn, N. Y., Benj. Finkensieper, archt., 134 Bway., Brooklyn.; Metropolitan Bldg., Akron, O. Messrs. Fitcher & Brooker, archts., Second Natl. Bank Bldg.; for power house at Fort Mifflin, Pa.

Slasher mill and pulp wood conveyor towers for the Belgo-Canadian Pulp & Paper Co., Ltd., Shawinigan Falls, P. Q.; for Cote St. substation for the Montreal Tramways Co.

★**Gulfport, Miss.**—Contract awarded by Bd. Co. Supervs. to W. E. Callahan Co., Omaha, Neb., for constructing first ten miles of sea wall.

Louisville, Ky.—Only bid opened Feb. 10 for constructing guide wall and removing rock ledge below Lock No. 41, Ohio River, was that of G. A. Gillespie Constr. Co., 806 Westinghouse Bldg., Pittsburgh, at $126,091.

★**Port Arthur, Tex.**—Contract awarded by City Comn. to Spencer Howe Constr. Co., Porth Arthur, for constructing drainage pumping plant of $18,800.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK

Trenton, N. J.—City Comn. contemplates constructing drain across the lands of American Bridge Co., to cost $10,000. Bids to be called for in the spring. Leon D. Hirsch, city clk.

Trenton, N. J.—U. S. Government has taken steps to insure construction of proposed inland waterway across the State from near Bordentown to near Perth Amboy.

Columbia, S. C.—Chamber of Commerce indorsed bill urging completion of Columbia canal from Gervais St. to its terminus.

Winder, Ga.—Contract soon to be let by Barrett and Gwinnett Counties for drainage in said counties consisting of Mulberry Drainage Dist. reclaiming about 2000 acres, Sweetwater Dist. 42,000 acres, along Jackson Creek 312 acres, South Beaver Run to be ditches 2.71 miles, 254 acres, North Beaver Run, 326 acres. G. L. Veal, co. surv. and engr.

Pass Christian, Miss.—City contemplates issuing drainage bonds for $10,000; waterworks and fire apparatus $40,000.

Cleveland, O.—Following bonds will be sold March 12 by C. J. Neal, dir. finance: Lake Erie purification bonds for $400,000; $600,000 river purification bonds; $100,000 hospital bonds; $50,000 waterworks bonds; $1,500,000 street improvement bonds.

Gary, Ind.—Lake and Foster counties contemplate constructing Burns ditch canal reclaiming about 22,000 acres of swamp land in Little Calumet Valley, to be 70 ft. wide at mouth and 100 ft. at bottom, to link Little Calumet River and Lake Michigan, thereby draining its marshes and eliminating floods; in addition to main ditch there will be two lateral branches, one running east and the other west. Address Co. Clk., Crown Point, Ind.

Springfield, Ill.—Judge Norman L. Jones rendered decision releasing the waterway funds and making possible the immediate construction of the Lockport-Utica stretch of proposed waterway, by means of canal between Lockport and Utica, connecting the Desplaines and Illinois River at cost of about $20,000,000.

Appleton, Wis.—Plans being prepared by Wolf River Valley Improv. Assoc. for constructing 30 miles canal from northern part of Outagamie County to southern end for drainage purposes.

Plains, Mont.—Thompson Falls Power Co., Butte, contemplates reclaiming 2700 acres of land in dist. to cost from $2 to $30 per acre.

Whitman, Mo.—Surveys are being made for drainage work in Yellow Creek Drainage Dist. Clark E. Jacoby Eng. Co., 512-514 Shukert Bldg., Kansas City, Mo., engrs.

Alameda, Cal.—Oakland Water Front Co. contemplates reclamation of about 400 acres of tideland on the city's western waterfront to include excavation of about 3,000,000 yds. of slickens from Oakland estuary, and has also applied to City Council for permit to construct levee around the 400 acres of tideland of the west shore; cost $35,000.

Fairoaks, Cal.—Election to be held March 20 to form Fairoaks Irrigation Dist. and elect directors who will select engineer to prepare plans for irrigation system; water will probably be pumped either from Sacramento River or North Fork Ditch Co.'s canal.

Oroville, Cal.—Construction of irrigation system taking water from north fork of Feather River near mouth of west branch and irrigating large area of foothill land contemplated. F. F. Ford, 704 Bird St., interested.

BIDS DESIRED

Albany, N. Y.—See "Buildings."

New York, N. Y.—Until March 9, by R. A. C. Smith, comr. docks, for Cont. No. 1556, for dredging in Manhattan, Brooklyn, Queens, Bronx and Richmond Boros., total security $11,000.

New York, N. Y.—Until March 28, at U. S. Engrs. Office, Army Bldg., 39 Whitehall St., for dredging in Passaic and Hackensack Rivers, N. J.; advertised in this issue. issue.

Anderson, S. C.—Until March 12, by Bd. Drain. Comrs., Eighteen Mile Creek Drain. Dist. (John W. Linley, chmn.), for draining canal along Eighteen Mile Creek and its tributaries; work includes about 69,800 ft., and 408,000 cu. yd. excavation on Main Canal; 18,380 cu. yd. excavation on tributaries. W. H. Shearer, engr., Anderson.

Morganfield, Ky.—Until March 22, by Bd. Drain. Comrs., for constructing H. A. Roberts Public Ditch; Norman R. Orcutt, ch. engr., Morganfield; advertised in this issue.

Columbia City, Ind.—Until Mar. 28, by H. G. Bollinger, comr. of const. (separate bids), for open work, Mar. 29 tile construction, Mar. 30, and for furnishing tile for ditch bank on main line and 117 branches consisting in all of 85 mi. of closed and open ditch work; cost about $170,000.

Mason City, Ia.—Until March 12 (new date), by Geo. E. Frost, co. aud., for constructing Drain Dist. No. 49; work includes about 15,450 ft. tile of from 7 to 28 in.; Drain Dist. No. 50, includes about 24,580 ft. of from 6 to 26-in. tile; certified check for 10 per cent to accompany bid.

Mason City, Ia.—Reported desired until Mar. 26, by H. D. Keirl, engr., Clear Lake, for drain ditch No. 40, open ditch; work includes about 385,000 yd. open work and 83,000 ft. 6 to 40-in tile.

Benson, Minn.—Until March 19, by D. P. Carney, co. aud., for constructing Co. Ditch No. 14, work includes about 91,110 ft. of from 5 to 26-in. tile, inlets, bulkheads, etc.; cost about $65,832. S. B. Gardner, engr., Benson.

Duluth, Minn.—Until March 19, at U. S. Engrs. office, for dredging in Duluth-Superior Harbor.

Great Falls, Mont.—Until Mar. 29, for constructing canals and structure on Sun River Project, Mont.; A. P. Davis, ch. engr., Ft. Shaw, Mont.; advertised in this issue.

PRICES AND LETTINGS

★*Indicates award of contract.*

Woodbury, N. J.—Following bids opened Feb. 19 by U. S. Engrs. for dredging Woodbury Creek: Delaware Dredg. Co., Philadelphia, Pa., 19½ cts.; Dorsey & Miller Co., Baltimore, Md., 21 cts. Price given per cu. yd.

Wilmington, Del.—Following are bids opened Feb. 19 by U. S. Engrs. for dredging in Alloway Creek; Delaware Dredg. Co., Philadelphia, Pa., 24 cts.; Dorsey & Miller, Baltimore, Md., 27 cts. Prices given per cu. yd.

★**Savannah, Ga.**—Following are four lowest bids opened by Drainage Com. for constructing storm water drainage canal through Hillcrest Cemetery; Carolina Constr. Co., Savannah, Ga., $44,459 (awarded contract); Gadsden Constr. Co., Savannah, $50,699; Beasley Constr. Co., Savannah, $51,765; Municipal Eng. Co., Atlanta, $57,891.

★**Savannah, Ga.**—Contract awarded by Col. John Willis, corps engrs., U. S. A., Feb. 5, to John Eniele, Jacksonville, Fla., at $12,750, for dredging in Savannah harbor.

★**Jeanerette, La.**—Contract awarded to G. A. McWilliams, Memphis, Tenn., at $31,000 for drainage work requiring 398,500 cu. yd. excav. Address J. C. Akers, pres. Iberia and St. Mary's Drainage Dist.

★**Hartford City, Ind.**—Contract awarded Clamme Bros. at $10,842 for reclaiming the H. B. Smith or Walnut Creek Ditch about 9 miles long.

★**Flint, Mich.**—Contract awarded A. Harman, Clio, Mich., for open work for Wilber drain in Thetford Township at $530, and Ed. O'Brien, Mt. Morris, Mich., at $33,000 for tile work.

★**Sibley, Ia.**—Contract awarded by Co. Aud. Feb. 8 for constructing Joint Drainage Dist. No. 3, to Linnan & Clancey, Fonda, Ia., at $97,502 for labor, and to Spencer Tile Co., Spencer, at $97,298 for tile.

★**Bemidji, Minn.**—Following are four lowest bids opened Feb. 23 by J. L. George, co. aud., for constructing Judicial Ditch No. 40, consisting of 247,000 cu. yd.: American Drainage Co., Thief River Falls, 11.98 cts. (awarded contract); Knudson & Hill, Grand Rapids, Minn., 12.15 cts.; W. H. Schmall, Aitkin, 12.20 cts.; Lawrence Constr. Co., Grand Rapids, Minn., 12.21 cts.; prices given per cu. yd.

★**New Ulm, Minn.**—Contract awarded by Louis G. Vogel, co. aud., to F. Aufderheide, New Ulm, at $19,980, for constructing County Ditch No. 38.

★**Tacoma, Wash.**—Contract awarded by U. S. Engrs. (bids opened Jan. 25) to D. W. Rutherford, Tacoma, Wash., at $11,160 for dredging in city waterway, Tacoma.

TUNNELS AND SUBWAYS

PROPOSED WORK

Brooklyn, N. Y.—Pub. Serv. Comn. has adopted plans for constructing a two-track connection at Ashland Pl., between 4th Ave. Subway and Fulton St. Elevated RR. to relieve congestion in central section of Brooklyn.

Newark, N. J.—Bd. of Freeholders will appropriate $10,000 for completing preliminary work of preparing plans and estimates for vehicular tunnel connection between New York and New Jersey.

Hudson & Manhattan RR. Co. (J. V. Davies, ch. engr., New York City) contemplates extending its tracks under Park Pl. and Military Park, calling for abandonment of present Park Pl. station to point adjacent to the Pub. Serv. Ry. Terminal, connection which would be made by foot-passenger subway. Hudson & Manhattan RR. Co. and Pub. Serv. Co. will jointly share cost of proposed improvement, to be about $800,000.

Erie, Pa.—F. G. Lynch, city engr., has completed report to State Water Supply Comn., Harrisburg, preliminary plans having already been approved by Comn. for flood prevention tunnels for the east and west branches of Garrison Run; cost $200,000.

Middleton, Tenn.—Gulf Mobile & Northern RR. Co. (R. P. Parker, engr., box 425, Jackson) contemplates constructing 400-ft. tunnel, concrete lined.

Goshen, Ind.—Construction of subway at New Carlisle crossing of Lincoln highway contemplated; cost about $120,000.

St. Paul, Minn.—Plans have been submitted to the City Planning Com. (Louis Betz., chm.) for proposed tunnel tube system of express trolley service between business center of St. Paul and Minneapolis; second plans provide for constructing track bridge beneath the present Marshall Ave. bridge over Mississippi River and a two or three-track tunnel tube via Marshall Ave. to the Capitol concourse.

Rosedale, Kan.—Agreement has been reached for diversion of Turkey Creek by tunnel through Greystone Heights in Rosedale, and entire elimination of creek bed on Missouri side of the line, which will prevent future floods in this territory; estimated cost $450,000, to be paid in by interested corporations, including several railroads, private companies and the city.

Portland, Ore.—See "Railroads."

PRICES AND LETTINGS

★*Indicates award of contract.*

Spokane, Wash.—See "Reinforced Concrete."

MISCELLANEOUS

PROPOSED WORK

Transmission Line—Bangor, Me.—Bangor Railway & Electric Co., Bangor, contemplates erecting electric transmission line from the Ellsworth, Veazie and Milford stations to the plant of the Eastern Mfg. Co., Lincoln, with whom it has contracted to supply 2000 hp.; cost about $75,000.

Street Sprinkling—Lowell, Mass.—Sum of $27,000 has been appropriated for street sprinkling.

Boilers—Newark, N. J.—Fire Board contemplates installing five new boilers; cost $15,000.

Transmission Line—Altoona, Pa.—Penn Central Light & Power Co., Altoona, will duplicate its high-tension transmission line in Cambria Co. at cost of about $56,000. The proposed line will be extended from the substation at Collinsville to Cresson and to Ashville.

Fairmount, W. Va.—See "Reinforced Concrete."

★**Dredge — Braselton, Ga.** — Contract awarded to Thompson & Moseley, Greensboro, N. C., for floating dipper dredge work 5 miles long and 24 ft. wide. (Contr.)

GARBAGE—Dayton, O.—Ordinance has been passed by City Comn. for issuing $27,000 bonds for improving and enlarging garbage reduction plant. G. W. Shroyer, mayor.

Transmission Line—Whitehall, Mich.—Frugale Power Co. (F. H. Speese, secy. & mgr.), Whitehall, contemplates erecting electric transmission line, 10 miles long in the spring, also rebuild its dam at Hesperia, Mich., installing new wheels and generators.

Transmission Line—Lena, Ill.—Lena Electric Light & Power Co. (Geo. Benfer, mgr.) contemplates erecting 16 miles of 33,000-volt, three-phase electric transmission line, two-pole type, substations, one 200-kva. generating unit complete.

Stack—Anaconda, Mont.—W. C. Capron, Washoe Smelter, reports plans have been approved for constructing a new stack to be 535 ft. high, 50 ft. diam., utilizing over 30,000,000 bricks in construction, for local plant; cost $1,250,000.

Transmission Line—Kalispell, (Mont.)—Co. Comrs. have granted Northern Idaho & Montana Power Co., Sandpoint, permission to erect an electric transmission line and telephone line to run from Bigfork to Polson along the east shore of Flathead Lake, and from Polson to Ravalli, via Ronan and Mission, to connect Dayton and Polson on the west shore of Flathead Lake.

Incinerators — Fort Worth, Tex. — City Comn. contemplates constructing three incinerators; cost $35,000.

Park Bonds—Okmulgee, Okla.—Resolution has been passed authorizing bond issue of $75,000 for city parks.

Transmission Line—Tacoma, Wash.—Tacoma Ry. & Power Co. has applied to the Comrs. of Thurston Co. for franchise to erect electric transmission lines along certain roads in Thurston Co., also extend its transmission lines from the Tacoma city limits through Thurston County to serve small villages and farming districts; initial line will be from the Tacoma city limits to the Brown Ranch at Nisqually.

Transmission Line—Escondido, Cal.—San Diego Consolidated Gas & Electric Co., which recently purchased the property of the Escondido Utilities Co., contemplates the erection of a 22,000-volt transmission line from Olivenhain to Escondido, 10 miles, to cost $21,290, and a 11,000-volt line from Vista to Escondido, 13 miles, to cost about $14,141.

Cement, Etc.—Martinez, Cal.—Contract will soon be let by Bd. Supervs. for furnishing 26,000 bbl. cement, 22,000 cu. yd. sand, gravel and rock for construction work for coming year.

Cement Rock, Etc.—Sacramento, Cal.—Contract will soon be let by Bd. of Superv. for furnishing 175,000 bbls. cement, 100,000 tons crushed rock and 60,000 tons of sand for highways.

Transmission Line—Visalia, Cal.—Bd. of Supervs. granted the Mount Whitney Power & Electric Co., Visalia, a 50-year franchise to erect and operate electric transmission lines on the roads and highways of Kings Co.

Transmission Line—Shelley, Idaho.—Shelley Light & Power Co. (A. C. Schweitzer, supt.) contemplates the reconstruction of its local distribution lines this spring and is also considering extending its transmission lines to neighboring towns within radius of 6 miles.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Riprap — Marshfield, Ore.** — Contract awarded by Southern Pacific Ry. Co. (W. Hood, ch. engr., San Francisco, Cal.), to McLane & McLane, for placing 10,000 tons riprap around the 13 piers of the county's bridges across Coos Bay.

★**Kelp Harvester—Summerland, Cal.**—Contract awarded by Bd. Awards, Dept. Agriculture, Washington, D. C., for furnishing the kelp harvester to the U. S. Dept. of Agriculture to Lorned Mfg. Co., Long Beach, at $12,000.

Proposals

For Proposals Advertised See Pages 55, 56, 57, 58 and 59

WATER WORKS AND SEWERAGE SYSTEMS

Bids Close.		See Eng. Record.
Mar. 6.	New York, N. Y.	Feb. 17
Mar. 6.	Chilton, Wis.	Mar. 3
Mar. 6.	Dundee, Mich.	Mar. 3
Mar. 6.	Boston, Mass.	Mar. 3
Mar. 6.	Skiatook, Okla.	Mar. 3
Mar. 7.	E. View (Cleveland P. O.), Ohio	Feb. 3
Mar. 7.	Castlewood, S. D.	Feb. 17
Mar. 7.	Benson, Neb.	Mar. 3
Mar. 7.	Rochester, N. Y.	Mar. 3
Mar. 7.	Lima, O.	Mar. 3
Mar. 7.	Nez Perce, Idaho	Mar. 3
Mar. 8.	Atlantic City, N. J. Adv. Feb. 24.	Feb. 24
Mar. 8.	Arcadia, Cal.	Mar. 3
Mar. 9.	Garfield, N. J. Adv. Mar. 3.	Mar. 3
Mar. 9.	Kaw City, Okla.	Mar. 3
Mar. 10.	Ravenna, O.	Jan. 27
Mar. 10.	Ravenna, O.	Feb. 10
Mar. 10.	Marshall, Tex.	Mar. 3
Mar. 10.	Crestline, O.	Mar. 3
Mar. 10.	Madison, Ill. Adv. Mar. 3.	Mar. 3
Mar. 12.	McKeesport, Pa. Adv. Feb. 17, 24.	Feb. 17
Mar. 12.	Providence, R. I. Adv. Feb. 24.	Mar. 3
Mar. 12.	Cuyahoga Falls, O. Adv. Mar. 3.	Mar. 3
Mar. 12.	New London, O. Adv. Mar. 3.	Mar. 3
Mar. 12.	Rolfe, Ia.	Mar. 3
Mar. 13.	West Torra Twp., Ont.	Mar. 3
Mar. 13.	Irvington, N. Y. Adv. Mar. 3.	Mar. 3
Mar. 14.	Denver, Ia.	Mar. 3
Mar. 14.	West Berwick, Pa.	Feb. 24
Mar. 15.	Winnipeg, Man. Adv. Feb. 10 to 24.	Feb. 10
Mar. 15.	Ogdensburg, N. J. Adv. Feb. 24, Mar. 3.	Feb. 24
Mar. 15.	Grand Forks, N. D.	Feb. 24
Mar. 15.	Fort Ann, N. Y. Adv. Mar. 3.	Mar. 3
Mar. 15.	Wilmington, Ill.	Mar. 3
Mar. 15.	Vancouver, Wash.	Mar. 3
Mar. 16.	Island Heights, N. J.	Feb. 24
Mar. 19.	Leetonia, O. Adv. Feb. 24, Mar. 3.	Feb. 24
Mar. 20.	Johnston, Pa. Adv. Mar. 3.	Mar. 3
Mar. 21.	Brawley, Cal.	Mar. 3
Mar. 21.	Lawrence, Kan. Adv. Mar. 3.	Mar. 3
Mar. 22.	Canton, N. Y. Adv. Mar. 3.	Mar. 3
Mar. 23.	Dadeville, Ala.	Mar. 3
Mar. 24.	Norwalk, Conn. Adv. Mar. 3.	Mar. 3
Apr. 1.	Gibson, Ill.	Dec. 23
Apr. 1.	Mt. Vernon, O.	Dec. 23
Apr. 1.	Hillsboro, Ill.	Jan. 27

STRUCTURAL STEEL WORK

Bids Close.		See Eng. Record.
Mar. 6.	Dillon, Mont.	Feb. 10
Mar. 6.	Lewisburg, W. Va. Adv. Feb. 17, Mar. 3.	Feb. 17
Mar. 6.	Davenport, Ia.	Mar. 3
Mar. 6.	New Madrid, Mo. Adv. Mar. 3.	Mar. 3
Mar. 7.	Freehold, N. J.	Feb. 24
Mar. 7.	Akeley, Minn.	Mar. 3
Mar. 8.	Winchester, Ind.	Mar. 3
Mar. 10.	Anderson, Ind.	Feb. 24
Mar. 13.	East Dubuque, Ill.	Feb. 24
Mar. 13.	Tampa, Fla.	Feb. 24
Mar. 13.	Westpoint, Neb.	Mar. 3
Mar. 14.	Charleston, W. Va. Adv. Feb. 17, Mar. 3.	Feb. 17
Mar. 14.	Barbourville, Ky. Adv. Mar. 3.	Mar. 3
Mar. 15.	Detroit, Mich. Adv. Feb. 10 to 24.	Feb. 10
Mar. 15.	Clifton, Ariz.	Feb. 24
Mar. 27.	Fort Riley, Kan. Adv. Mar. 3.	Mar. 3

REINFORCED CONCRETE

Bids Close.		See Eng. Record.
Mar. 6.	Delaware, O.	Feb. 24
Mar. 7.	Trenton, N. J. Adv. Feb. 24, Mar. 3.	Feb. 24
Mar. 8.	Grand Rapids, Mich. Adv. Feb. 10, Mar. 3.	Feb. 10
Mar. 9.	Milwaukee, Wis. Adv. Feb. 10, Mar. 3.	Feb. 10
Mar. 12.	Washington, D. C.	Feb. 10
Mar. 12.	Ludington Harbor, Mich. Adv. Feb. 17 to Mar. 3.	Feb. 17
Mar. 12.	Modesto, Cal.	Mar. 3
Mar. 13.	Westfield, N. J.	Mar. 3
Mar. 14.	Seattle, Wash.	Mar. 3
Mar. 15.	Owatonna, Minn.	Feb. 17
Mar. 20.	Geneva, N. Y. Adv. Feb. 17, 24.	Feb. 17
Mar. 20.	Ft. Wayne, Ind.	Mar. 3
Mar. 26.	Hazard, Ky.	Feb. 10

ROADS AND PAVING

Bids Close.		See Eng. Record.
Mar. 5.	Newton, N. J. Adv. Feb. 17, Mar. 3.	Feb. 17
Mar. 6.	Baltimore, Md. Adv. Feb. 24, Mar. 3.	Mar. 3
Mar. 6.	Irvington, N. Y. Adv. Feb. 17.	Feb. 17
Mar. 6.	Portage, Wis. Adv. Feb. 17, 24.	Feb. 17
Mar. 6.	Boone, Ia.	Feb. 24
Mar. 6.	Monroe, Mich. Adv. Feb. 17, 24.	Feb. 24
Mar. 6.	Indiana	Feb. 24
Mar. 6.	Meridan, Miss.	Mar. 3
Mar. 6.	New York, N. Y.	Mar. 3
Mar. 6.	Ivanhoe, Minn.	Mar. 3
Mar. 6.	Delaware, O.	Mar. 3
Mar. 6.	Minneapolis, Kan.	Mar. 3
Mar. 6.	Philadelphia, Pa.	Mar. 3
Mar. 7.	Sterling, Ill.	Feb. 24
Mar. 7.	Morganfield, Ky.	Feb. 24
Mar. 7.	Indiana	Feb. 24
Mar. 7.	Davenport, Wash.	Feb. 24
Mar. 7.	Coquille, Ore.	Mar. 3
Mar. 7.	Monticello, Fla.	Mar. 3
Mar. 7.	York, Ont.	Mar. 3
Mar. 8.	Jackson, Ind.	Feb. 17
Mar. 8.	Lima, O.	Mar. 3
Mar. 8.	Iuka, Miss.	Mar. 3
Mar. 8.	Brooklyn, N. Y.	Mar. 3
Mar. 8.	Indiana	Mar. 3
Mar. 9.	Osborne, Kan.	Mar. 3
Mar. 9.	Ritzville, Wash.	Mar. 3
Mar. 9.	New Eagle, Pa.	Mar. 3
Mar. 9.	Indiana	Mar. 3
Mar. 10.	Bloomington, Ill.	Feb. 17
Mar. 10.	Marietta, Ga.	Mar. 3
Mar. 12.	Watervliet, N. Y.	Mar. 3
Mar. 12.	San Bernardino, Cal.	Mar. 3
Mar. 12.	San Fernando, Cal.	Mar. 3
Mar. 12.	Indiana	Mar. 3
Mar. 12.	New York, N. Y.	Mar. 3
Mar. 12.	Modesto, Cal.	Mar. 3
Mar. 13.	Seattle, Wash.	Mar. 3
Mar. 13.	Ventura, Cal.	Mar. 3
Mar. 13.	Atlantic Highlands, N. J. Adv. Mar. 3.	Mar. 3
Mar. 13.	Clinton, Ia.	Mar. 3
Mar. 14.	Barbourville, Ky. Adv. Mar. 3.	Mar. 3
Mar. 15.	Cadiz, O.	Jan. 27
Mar. 15.	Morgantown, W. Va.	Feb. 24
Mar. 15.	Pomeroy, Wash.	Feb. 24
Mar. 15.	Elmira, N. Y. Adv. Mar. 3.	Mar. 3
Mar. 16.	Rocky Mount, N. C.	Feb. 24
Mar. 16.	Erwin, Tenn.	Feb. 24
Mar. 16.	New Castle, Pa.	Mar. 3
Mar. 17.	Milwaukee, Wis.	Mar. 3
Mar. 18.	Kent, O.	Dec. 30
Mar. 19.	Albany, N. Y. Adv. Mar. 3.	Mar. 3
Mar. 19.	Marshall, Mich.	Mar. 3
Mar. 20.	Olive Hull, Ky.	Feb. 10
Mar. 20.	South Orange, N. J.	Mar. 3
Mar. 23.	Jamestown, Ky.	Feb. 10
Mar. 24.	Wayland, Ky.	Feb. 10
Mar. 24.	Hyden, Ky.	Feb. 10
Mar. 25.	Albion, Ind.	Mar. 3
Mar. 26.	Los Angeles, Cal.	Mar. 3
Mar. 27.	Nogales, Ariz.	Mar. 3
Mar. 29.	Pennsboro, W. Va.	Feb. 17
Mar. 30	Canton, Ill.	Jan. 20
Mar. 30.	Naperville, Ill.	Jan. 27
Apr. 1.	Virginia, Ill.	Jan. 13
Apr. 1.	East Rochester, N. Y.	Feb. 17
Apr. 3.	Madisonville, Wis.	Jan. 27
———	Alliance, O. Adv. Feb. 24.	Feb. 24

RAILROADS

Bids Close.		See Eng. Record.
Mar. 10.	Lake Toxoway, N. C. Adv. Feb. 17, 24.	Feb. 17

INDUSTRIAL PLANTS AND WAREHOUSES

Bids Close.		See Eng. Record.
Mar. 15.	Buffalo, N. Y. Adv. Feb. 17, Mar. 3.	Feb. 17
Mar. 15.	Shreveport, La.	Feb. 24

BUILDINGS
Public and Private

Bids Close.		See Eng. Record.
Mar. 6.	Madison, S. D.	Feb. 1
Mar. 6.	Savanna, Ill.	Feb. 1
Mar. 6.	Chicopee, Mass.	Feb. 10
Mar. 6.	Redfield, S. D.	Feb. 17
Mar. 6.	Bogalusa, La.	Feb. 24
Mar. 6.	Columbus, O.	Mar. 3
Mar. 6.	Columbus, O.	Mar. 3
Mar. 7.	McKeesport, Pa.	Mar. 3
Mar. 7.	Bay City, Tex. Adv. Feb. 3, 10.	Feb. 3
Mar. 7.	Lubbock, Tex.	Feb. 24
Mar. 8.	Sergent Bluff, Ia.	Feb. 10
Mar. 8.	Ann Arbor, Mich.	Feb. 17
Mar. 8.	Woodward, Okla.	Feb. 24
Mar. 8.	Pontiac, Mich.	Mar. 3
Mar. 9.	Hammond, La. Adv. Feb. 3, 10	Feb. 3
Mar. 9.	Taunton, Mass.	Mar. 3
Mar. 12.	Martin, Tenn.	Feb. 3
Mar. 12.	Merced, Cal.	Mar. 3
Mar. 13.	Hiawatha, Kan.	Feb. 3
Mar. 14.	Plainview, Ark.	Feb. 17
Mar. 14.	Crosby, N. D.	Feb. 24
Mar. 14.	Bridgeport, Conn. Adv. Mar. 3.	Mar. 3
Mar. 15.	Atkins, Ark.	Feb. 17
Mar. 15.	Omaha, Neb.	Feb. 17
Mar. 15.	Marion, Ky.	Feb. 17
Mar. 15.	San Pedro, Cal.	Mar. 3
Mar. 18.	Pulaski, Va.	Feb 3
Mar. 18.	Jacksonville, Fla.	Mar. 3
Mar. 19.	Johnstown, Pa.	Mar. 3
Mar. 20.	Albany, N. Y.	Mar. 3
Mar. 20.	Tropica, Cal.	Mar. 3
Mar. 21.	New York, N. Y.	Mar. 3
Mar. 21.	Martins Ferry, O. Adv. Feb. 17, 24.	Feb. 17
Mar. 23.	Holley Springs, Miss.	Feb. 24
Mar. 29.	Coshocton, O.	Feb. 24
Apr. 10.	Sullivan, Ind.	Feb. 24
May 1.	Minneapolis, Minn.	Nov. 25

FOUNDATIONS, PIERS AND DAMS

Bids Close.		See Eng. Record.
Mar. 5.	Grand Rapids, Mich. Adv. Feb. 10, Mar. 3.	Feb. 10
Mar. 6.	Fort Pierce, Fla.	Mar. 3
Mar. 6.	St. Louis, Mo.	Mar. 3
Mar. 7.	Woods Hole, Mass.	Feb. 17
Mar. 8.	Grand Rapids, Mich. Adv. Feb. 10, 17.	Feb. 10
Mar. 8.	Tacoma, Wash.	Feb. 17
Mar. 15.	Pensacola, Fla.	Feb. 10
Mar. 15.	Philadelphia, Pa. Adv. Mar. 3.	Mar. 3
Mar. 17.	Longport, N. J.	Mar. 3

TUNNELS AND SUBWAYS

Bids Close.		See Eng. Record.
Mar. 26.	Los Angeles, Cal.	Feb. 24

EXCAVATION, DREDGING AND DRAINAGE

Bids Close.		See Eng. Record.
Mar. 7.	Alexandria, La.	Jan. 13
Mar. 7.	Brooklyn, N. Y.	Feb. 24
Mar. 7.	Senatobia, Miss.	Feb. 17
Mar. 7.	Monte Vista, Colo.	Feb. 24
Mar. 7.	Senatobia, Miss.	Feb. 24
Mar. 8.	Ada, Minn.	Feb. 24
Mar. 8.	Baltimore, Md. Adv. Feb. 10, Mar. 3.	Feb. 10
Mar. 9.	New York, N. Y.	Mar. 3
Mar. 12.	Mason City, Ia.	Mar. 3
Mar. 12.	Anderson, S. C.	Mar. 3
Mar. 13.	Newport, R. I. Adv. Feb. 17, Mar. 3.	Feb. 17
Mar. 15.	Ft. Laramie, Wyo. Adv. Feb. 17.	Feb. 17
Mar. 15.	Neodesha, Kan.	Jan. 27
Mar. 15.	Cedar Rapids, Ia. Adv. Feb. 10.	Jan. 3
Mar. 15.	Powell, Wyo.	Feb. 17
Mar. 19.	Wilmington, Del. Adv. Feb. 24, Mar. 3.	Feb. 24
Mar. 19.	Duluth, Minn.	Mar. 3
Mar. 19.	Benson, Minn.	Mar. 3
Mar. 20	Vallejo, Cal.	Feb 1
Mar. 22.	Morganfield, Ky. Adv. Mar. 3.	Mar. 3
Mar. 23.	Hartford, Conn.	Feb. 24
Mar. 26.	Mason City, Ia.	Mar. 3
Mar. 28.	New York, N. Y. Adv. Mar. 3.	Mar. 3
Mar. 28.	Columbia City, Ind.	Mar. 3
Mar. 29.	Great Falls, Mont. Adv. Mar. 3.	Mar. 3
———	New York, N. Y. Adv. Feb. 17.	Feb. 17

MISCELLANEOUS

Bids Close.		See Eng. Record.
Mar. 5.	Horses and Props, Louisville, Ky. Adv. Feb. 10, Mar. 3.	Feb. 10
Mar. 6.	Rock Crusher — Augusta, N. J.	Feb. 24
Mar. 7.	Barrel Buoys — Albany, N. Y.	Feb. 24
Mar. 14.	Dredge, Madison, S. D. Adv. Feb. 17, 24.	Feb. 17
Mar 16.	Hydraulic Lift, Philadelphia, Pa. Adv. Feb. 10, 17.	Feb. 10

Titusville, Pa.—City reported considering purchase of 5,000,000-gal. capacity water pump. J. J. Sharpe, supt. waterworks. K. R. Kightlinger, city engr.

Baltimore, Md.—Calvin W. Hendrick, ch. engr. of sewers, suggested to Mayor J. H. Preston to authorize a loan for the construction of a permanent storm water drainage system

Hinton, W. Va.—Reported city considering sewer system. J. B. Lavender, city engr.

Mebane, N. C.—Town considering election to vote on issuing bonds to be used for waterworks and sewerage system.

Raleigh, N. C.—Reported city will lay about 5000 ft. of 18-in. c. i. pipe for gravity line between pumping station and impounding reservoir. R. B. Seawell, comr. pub. wks.

Bonifay, Fla.—Reported city voted $20,000 bonds to be used for construction of waterworks and light plant.

Centerville, Tenn.—Reported city considering construction of waterworks and light plant. J. F. Horner, mayor.

Cincinnati, O.—No bids received by Chas. F. Hornberger, dir. pub. service, for constructing sewers in portions of Paxton Rd. and Baltimore Ave.

Lima, O.—Bonds for $75,000 sold by City to be used for waterworks improvements.

Mechanicsburg, O.—Arthur Richards, of Richards Eng. Co., Columbus, estimates cost of constructing waterworks at $35,000. J. S. Neer, Mayor.

Middletown, O.—Bonds for $20,000 for im-

Wichita, Kan.—Press reports state that the Stockyards district will joint city in constructing a sanitary sewer from packing houses south through the city; cost about $200,000. Chas. H. Brooks, atty.

Scobey, Mont.—Election Mar. 20 to issue $70,000 bonds to be used for water and sewer systems

La Plata, Mo.—Election will soon be held by town to vote on issuing bonds for water works.

Pleasanton, Tex.—Town voted $20,000 bonds to be used for construction of adequate waterworks.

Enid, Okla.—Election probably will be held in May to vote on issuing $50,000 bonds to be used for waterworks. F. W. Brooks, supt.

Englewood, Col.—Election probably will be held in April to vote on issuing $200,000 bonds to be used for waterworks.

Florence, Colo.—Reported City considering election to issue bonds to be used for improving reservoir and water system. D. H. Houston, supt.

Trinidad, Colo.—Election will be held to issue $30,000 bonds to be used for installing sewage disposal system for city.

Seattle, Wash.—A. H. Dimock, city engr., has filed reports with Bd. Pub. Wks., C. B. Bagley, secy., for construction of sewers in 40th Ave north; cost $42,344.

Los Angeles, Cal.—Bd. Pub. Wks. requested City Council to appropriate $15,620 for constructing a concrete jacket over 2000 lin. ft. of outfall sewer near Inglewood. Homer Hamlin, city engr.

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prepared by Chas. A. Brown, asst. city engr., for storm and sanitary sewer on West 10th St. to extend from White River to Peoria & Eastern R. R., a distance of 2 miles.

Grand Rapids, Mich.—Local press reports no bids were received Feb. 23 for constructing southwest sewer. New bids will probably be called for; work includes 65,000 ft. of 6 to 39-in. pipe, estimated cost $158,000. Glendon A. Richards, pres. bd. pub. wks.

Muskegon Heights, Mich.—City voted $110,000 bonds to be used for construction of sewers and sewage disposal plant. Hoad & Decker, engrs., Ann Arbor.

Quincy, Ill.—Recommendations for improvements estimated at $196,835 made in first quarterly report of city waterworks comn. just completed, including construction of 300,000-gal. tank on 100-ft. tower, pumping station, and duplicate electric driven pumps and changes and extensions of pipe system, at $56,750; concrete lining in reservoir including footings for columns to support proposed roof at $41,965, and roof at $98,120.

Quincy, Ill.—City considering construction of 3 small sewers; cost about $20,000. D. Schroer, city clk.

Waukegan, Ill.—City Council considering plans for filtration system and enlargement of pumping station.

Springfield, Ill.—W. J. Spaulding, comr. dept. public property, has submitted to Council report on city water works and estimates that $175,000 will be required principally for water mains, such as the trunk line and service extensions and other improvements at River Station.

Milwaukee, Wis.—Mayor sent to Council a communication asking its approval of his appointment of a special committee of aldermen and city officials to investigate and make recommendations for immediate construction of filtration plant for city water supply; cost about $3,000,000.

North McGregor, Ia.—Town will hold election Mar. 26 for purpose of issuing bonds to be used for construction of waterworks and sewer system.

St. Paul, Minn.—City Council passed 2 ordinances authorizing sale of $150,000 bonds to be used for extending and improving water plant and water system.

City Council has approved plans for construction of sewers on Como, Cable, Bates Aves., and 6th, 7th, Maury, Maple, Rice, Morton, Griggs, W. Louisa, and Place Sts.

Dodge City, Kan.—City considering sewer improvements. W. E. Baldry, city engr

Eldorado, Kan.—City has voted $60,000 to be used for extensions and improvements to waterworks.

Lawrence, Kan.—City Comn. passed ordinance authorizing $250,000 bond issue to be used for improvements and extensions to waterworks.

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ern and southern sections C. M. Brooks, town engr.

Globe, Ariz.—City has engaged Olmstead & Gillelen, 1112 Hollingsworth Bldg., Los Angeles, Cal., to prepare plans for sewerage system; cost about $217,000.

Emmett, Idaho.—Bonds for $17,000 voted and contracts will soon be let for construction of sewage disposal plant.

Nampa, Idaho.—Council considering installation of sewer system on south side, covering 600 lots. Ogden Dutcher, city engr., estimates cost at $25,000

Twin Falls, Idaho.—R. M. Williams, city clk., writes election will probably be held to vote on bonds to be used for construction of waterworks and distribution system.

Redcliff, Alta.—Town considering waterworks improvements, including new pumps, 1,500,000 gal. capacity, boilers, 1 mile 10-in pumping mains and 1000 ft. 6-in. pipe. J. F. Askwith, town engr., Box C4.

Trail, B. C.—Plans completed by A. L. McCulloch, engr., Nelson, and contracts will soon be let for waterworks and sewer system; cost about $50,000.

BIDS DESIRED

New York, N. Y.—Until Mar. 12, by William Williams, comr. water supply, gas & elec., for furnishing, delivering, etc., c. i. pipe, special and valve box castings, etc., total security $6750.

Rochester, N. Y.—Until Mar. 14 by Bd. Contract and Supply (F. X. Pifer, secy.) for furnishing about 10,750 tons of 37-in. c. i. pipe and special castings; also for hauling and laying about 8 mi. of 37-in. c. i. pipe conduit and 8 mi. of 37-in. lock bar steel pipe for Conduit 3.

Garfield, N. J.—Until Mar. 23, by Mayor and Council (John A. Dwyer, boro. clk.), for furnishing 25 tons of 6-in. c. i. water main; advertised in this issue.

Westfield, N. J.—Until Mar. 19 by Chas. Clark, town clk., for constructing 2750 lin. ft. of 18-in. sanitary sewer and appurtenances in Rahway and Hazel Aves., Park and Sylvania Places and Edgewood Parkway.

Philadelphia, Pa.—Until Mar. 22, by Dept. Pub. Wks. (George E. Datesman, dir.) for constructing main sewers, bridges and borings; advertised in this issue.

Baltimore, Md.—Until Mar. 14 by Bd. Awards, City Hall, for furnishing and delivering caustic lime as may be required by water dept. during the year 1917. Walter E. Lee, water engr.

Washington, D. C.—By Bureau Supplies and Accounts, Navy Dept., for Sch. No. 793 black galvanized pipe and fittings for Norfolk, Va.; for Sch. 783, 8100 ft. terra cotta pipe and bell and spigot joints for Portsmouth, N. H.; also for 50,000 lbs. c. i. water pipe for Norfolk, Va.

Madison, Ga.—Reported desired until Mar. 14, by City (M. F. Brooks, Mayor) for constructing extension to sewer and water mains; work includes about 2.8 mi. from 4 to 10 in. water mains; 27 hydrants, 3 mi. of from 8 to 10 in. sewer pipe, together with manholes, etc., Solomon Norcross Co., Candler Bldg., Atlanta, engrs.

Tuskegee, Ala.—Reported desired until Mar. 15 by Walter G. Franz, Union Trust Bldg., Cincinnati, O., for constructing sanitary sewer system and disposal plant at Tuskegee Normal and Industrial Institute, including 4 to 10 vitr. sewer tile, brick manholes, etc.

Deshler, O.—Until Mar. 20 by E. A. Shirey, clk. bd. city trustees for constructing waterworks system, including well, 2 centrifugal pumps, concrete reservoir and distribution pipe system. George Champe, 610 Nasby Bldg., Toledo, engr.

Newark, O.—Reported desired until Mar. 15, Bd. Pub. Serv. (W. C. Chriastian, dir.), for constructing 13,760 ft., of 6 to 24 in. sewer pipe, manholes, catch basins, etc; C. H. Wells, engr., City Hall.

Ann Arbor, Mich.—Until Mar. 26, by Waterworks Dept. (Geo. S. Vandawarker, mgr.), for laying about 22,000 lin. ft. of from 12 to 16 in. c. i. water main; advertised in this issue.

Effingham, Ill.—Reported desired until Mar. 15 by Eastern Illinois Utilities Co. (E. F. Anderson, mgr.) for constructing filtration plant of reinforced concrete and tile; cost about $35,000.

Granite City, Ill.—By Jobst-Walbridge Co., Granite City, for furnishing 3900 ft. concrete sewer and 4021 ft. of pipe sewer; advertised in this issue.

Beaver Dam, Wis.—Reported desired until Mar. 19 for constructing 10,245 ft. of sewers. Address Bd. Pub. Wks.

Ripon, Wis.—Until Mar. 30 by C. W. Stuart, city clk., for constructing alteration to sewage disposal plant.

West Minneapolis (Hopkins P. O.), Minn.—Until Mar. 22, by Village Council (E. A. Close, recorder), for constructing sanitary sewer system; J. F. Druar, engr., 312 Commercial Bldg., St. Paul.

Fairbury, Neb.—Until Mar. 15 by R. A. Davis, city clk., for constructing storm water sewers; work includes about 4810 ft. of from 18 to 33-in. pipe and 2400 ft. of from 12 to 15-in. catch basin connections, cost about $14,680. Grant & Fulton, Lincoln, Neb., engrs.

Imperial, Neb.—Reported desired until Mar. 14, by W. C. Hill, city clk., for constructing waterworks system, including deep well and pump, pump house, etc.; cost about $16,400.

Ellsworth, Kan.—Until Mar. 15, by E. R. Shaw, city clk., for constructing storm sewers in city; work includes about 2,400 ft. of 7-in. circular sewer to be constructed of reinforced or Segmental Block, and about 580 ft. open conduit; Black & Veatch, Inter-State Bldg., Kansas City, Mo., engrs.

Neodesha, Kan.—Until Mar. 26, for constructing sewage disposal plant; work includes about 4,270 ft. of 12 in. pipe together with Imhoff tank, sprinkling filters and sludge basin; C. A. Case, city engr. Black & Veatch, Kansas City, Mo., engr.

Clear Lake, S. D.—Reported desired until Apr. 9 by City for constructing 4½ mi. sewers and sewage treatment plant; Dakota Eng. Co., Mitchell, S. D., engrs.

Sioux Falls, S. D.—Reported desired until Mar. 20 by county, for constructing 15 blocks lateral sewers.

Eudora, Ark.—Reported desired until Mar. 21, by Comrs. 1st Water and Sewer Dist., for constructing waterworks and sanitary sewer system; work includes furnishing oil engines, pumps, steel tower and tank, main pipe, vitr. sewer pipe, reservoir, etc. Xavier A. Kramer, Magnolia, Miss., engr.

PRICES AND LETTINGS

★*Indicates award of contract.*

Brooklyn, N. Y.—Following are 4 lowest bids opened Feb. 21 by Boro. Pres. L. H. Pounds, for installing mechanical equipment at sewage pumping station at Morgan and Maspeth Aves.: Sec. No. 3, storm and sanitary sewers in portions of Maspeth and Garden Aves.; Watson-Flagg Co., 120 Liberty St., New York, $52,900; C. H. Simpson, 170 Broadway, New York, $52,934; Lupfer & Remick, Buffalo, $54,494; Heyman-Goodman Co., 15 Exchange Pl., Jersey City, N. J., $57,500.

★**Chester, Pa.**—Contract awarded by New Chester Water Co., Chester, for construction of filter plant to Hughes-Foulkrod Co., Commonwealth Bldg., Philadelphia, at $60,000.

★**Niagara Falls, N. Y.**—Following are 4 bids opened by city Feb. 24, for construction of sewer in portions of 24th St.; bids taken on (1) segmental block, (2) brick, (3) concrete sewer, (4) Ind. Con. pipe: (a) D. Spacone, Niagara Falls, (1) $66,984 (awarded contract), (2) $69,248, (3) $68,560; (b) Mapes & Hurley, Marion, O., (1) $69,218, (4) $68,158; (c) Peckham Contr. Co., Mutual Life Bldg., Buffalo, (1) $84,523; (d) Donley & Graham, W. 30th St., Cleveland, O., (3) $93,706, (1) $90,540

	(a)	(b)	(c)	(d)
10 lin. ft. 6-in. sewer tile	$0.40	$0.83	$0.75	$0.90
300 lin. ft. 8-in. sewer tile	0.60	0.95	1.25	1.00
10 lin. ft. 10-in. sewer tile	0.75	1.05	1.75	1.00
10 lin. ft. 12-in. sewer tile	1.00	1.20	2.00	1.00
10 lin. ft. 15-in. sewer tile	1.50	1.38	2.50	1.50
	Ind Con pipe			
10 lin. ft. 18-in. sewer tile	1.50	1.75	3.00	2.00
	Seg. Block		Seg. Block	
690 lin. ft. 66-in. reinforced concrete	14.50	14.75	14.60	19.00
2,476 lin. ft. 72-in. reinforced concrete	15.50	15.55	17.80	21.52
9 brick manholes, each	125.00	150.00	115.00	100.00
22 catchbasins, each	40.00	62.00	73.00	69.60
10 cu. yd. concrete, each	5.00	10.00	8.00	10.00
5,210 cu. yd. rock excav	3.00	3.00	5.00	4.50
10 cu. yd. extra earth excav	0.50	1.50	2.00	2.00
150 sq. yd. relaying pave	2.00	5.35	3.50	3.00
5 reconnecting house cons., each	6.00	5.00	15.00	5.00
5 cu. yd. overhaul	1.00	0.05	0.03	0.05
5 4-in. tile hydrant drips, each	5.00	20.00	10.00	7.50
80 8-in. v. branches, each	1.00	100.00	2.00	1.00
12,000 F. B. M. shoring and sheeting	20.00	25.00	0.025	30.00

*Second St. sewer awarded same date and place to Read, Coddington Eng'r Co., Niagara Falls, at $22,274. W. B. Bennett, city engr.

Buffalo Ave. sewer bids opened same date and place: Donley & Graham, Cleveland, O., (1) $93,270, (3) $97,037; Peckham Contr. Co., Buffalo, N. Y., (3) $134,534. Bids rejected being above estimate.

★**Philadelphia, Pa.**—Contract awarded by Pub. Wks. Dept. (Geo. E. Datesman, dir.), for new section of Frankford Creek intercepting sewer in Wheatsheaf Lane, between Sepviva and Amber Sts., to Whiting Turner Constr. Co., Sexton Bldg., Baltimore, Md., at $75,000.

East St. Louis, Ill.—Following are 4 lowest bids opened Feb. 26 by city for Winstanley Park sewer: J. Keeley Cons. Co., Belt and State Sts., E. St. Louis, $386,790; H. H. Hall Constr. Co., Murphy Bldg., E. St. Louis, $390,633; Louis Rich Constr. Co., 1703 Weinman St., E. St. Louis, $402,157; Heffker Bros. Co., Belleville, $431,878. Engineer's estimate, $415,000.

★**Knoxville, Ia.**—Contracts awarded as follows: Lateral sewers, R. C. De La Hunt, Cedar Rapids, $23,551; main sewers, Moore-Sieg Constr. Co., Waterloo, $4,010; sewage disposal plant, Ward & Weighton, Sioux City, $7,135. M. G. Hall, con. engr., Centerville.

★**Stratford, Ia.**—Contract reported awarded by city for construction of sewer system and disposal plant to H. J. Canthroe, Omaha, Neb., at $26,923.

★**St. Paul, Minn.**—Contract awarded by city for $30,000,000-gal. reservoir to G. J. Grant Constr. Co., 902 N. Y. Life Bldg., St. Paul, at $246,054.

★**Larned, Kan.**—Contract awarded for constructing sewer and pumping plant to McCoy & Taylor, Larned, at $34,958. Black & Veatch, engrs., Kansas City, Mo.

★**Gering, Neb.**—Contract awarded by city (bids opened Feb. 27) for construction of lateral sewers to J. R. Gordon, Denver, Colo., at $31,094; other bidders Intermountain B. & Constr. Co., Tecumseh, Neb., $34,300; J. S. Schwartz, Colorado Springs, Colo., $34,370; J. J. Dunnegan, $35,100. S. L. Irvine, city clk.

★**New Wilson, Okla.**—Contract reported awarded by city for constructing sewers to McIntosh & Walton, Oklahoma, at $29,700.

Los Angeles, Cal.—Reported lowest bid received by city for construction of sewer in portions of Fountain St. was that of L. Volenterio, at $42,500.

★**Casa Grande, Ariz.**—Contract awarded by city Feb. 15 for construction of water, light and power plant, including 80-hp. Western engine, 62-kw. generator, 11,000 ft. of water pipe, transmission line, etc., to Schweitzer Machine Co., Phoenix, at $25,078.

STRUCTURAL STEEL WORK

PROPOSED WORK

New Haven, Conn.—Bids will probably be asked in few weeks, on both a steel girder bridge with channel opening of 125 ft. and a reinforced concrete bridge with 3 arches on each side of draw span, to replace old Tomlinson bridge over Quinnepiac River; plans call for bridge 550 ft. long and 62 ft. wide, with 40-ft. roadway and 10-ft. sidewalks on each side, designed to carry 100,000 ton freight cars.

Albany, N. Y.—In conjunction with track elevation work of Delaware & Hudson RR. (James M. MacMartin, ch. engr., Albany, N. Y.) from southern end of city to Union Station, railroad intends constructing steel bridge on concrete piers over Bway. at Pruyn St.

Butler, Pa.—Estimated cost of proposed South Main St. viaduct, this boro., placed at $150,000 ($130,000 is for construction work) and apportioned by Pub. Service Comn., Harrisburg, as follows: Boro. of Butler, 34 per cent; Bessemer & Lake Erie R. R. (H. T. Porter, ch. engr., Greenville, Pa.) 26 per cent; Butler Co., 17 per cent; State, 15 per cent; Baltimore & Ohio R. R. (R. N. Begien, ch. engr., Baltimore, Md.), 8 per cent.

New Castle, Pa.—County Court, quarter sessions (S. E. Crawford, clk.) considering construction of bridge over Coffee Run, Mahoning Twp., on road from Hillsville to New Bedford, another over Neshannock creek on Mill St., New Castle, and reconstructing of bridge over Big Run at Moravia St., New Castle.

Pittsburgh, Pa.—County Comrs. have been asked by residents of northside of city and Troy Hill section of Reserve Twp. to construct bridge from Essen St.—dividing line between city and twp.—to Elwool St., 1,200 ft. long, with 28-ft. roadway; estimated cost $312,000.

Williamsport, Pa.—County Comrs. have selected Mark C. Krause, engr., Williamsport, Pa., to prepare plans for Newberry-DuBoistown and Montgomery bridges and are considering awarding contract, this spring, to one contractor for both bridges.

County Comrs. have been petitioned to construct bridge over Lycoming creek at extension of West 4th St. Address Chas. H. Riddell, member, bd. viewers.

Ogelthorpe, Ga.—County intends constructing steel bridge over Flint River and improve other bridges for which election will be held this month to vote $100,000 bonds.

Lake Charles, La.—Police Jury, Calcasieu parish, intend constructing 3 steel and concrete bridges to cost about $60,000.

Youngstown, O.—Estimated cost of proposed South Main St. bridge will be borne $40,000 by city and $18,000 by county.

Louisville, Ky.—Plans being prepared by Waddell & Son, Graphic Arts Bldg., Kansas City, Mo., to construct $400,000 steel bridge, 510 ft. long, with one 260-ft. lift span over Ohio River, this place, for Bethlehem Steel Corp., South Bethlehem, Pa.

Elkhart, Ind.—Estimated cost to replace bridge over St. Joe River at dam, near Elkhart Ave., with new structure placed between $60,000 and $80,000. Address Co. Clk., Goshen.

Ft. Wayne, Ind.—Estimated cost of proposed track elevation work requiring 42,590 cu. yds. excav., at Hanna and Lafayette Sts., City to build approaches, apportioned as follows: Hanna St., Pennsylvania R. R. (Alex. C. Shand, ch. engr., Broad St., Philadelphia, Pa.), $132,000; Wabash R. R. (A. O. Cunningham, ch. engr., St. Louis, Mo.), $24,100; City, $50,400. Lafayette St., Pennsylvania R. R., $187,000; Wabash R. R., $21,418; City, $41,100.

Milwaukee, Wis.—In conjunction with track depression of Chicago, Milwaukee & St. Paul R. R. (C. F. Loweth, ch. engr., Chicago, Ill.) at North Ave., city intends constructing bridge over river from Humboldt to Cambridge Aves. Geo. Staal, city engr.

Elkader, Ia.—Bd. Supervs. intend replacing 5 wooden bridges in county with modern structures and at April session will award contract to replace wooden bridge at Mederville with concrete arch bridge, 300-ft. long and 60-ft. high; estimated cost $16,000. Martin G. Hagensick, clk. dist. court.

Bonners Ferry, Idaho.—Spokane & International Ry. (E. G. Taber, ch. engr., Spokane, Wash.), intends to begin immediately construction work on its bridge and trestle over Kootenai River, here; estimated cost $25,000.

BIDS DESIRED

Buffalo, N. Y.—Until Mar. 15, by Grade Crossing Comn., for elimination of grade crossings and other work necessary for constructing viaduct and approaches; also for constructing connected steel, thorough-truss bridge about 12 ft. long over Erie RR. at Louisiana St. Certified check for $5,000, and Erie RR. check for $2,000; Edward B. Guthrie, ch. engr.

Washington, D. C.—Until Mar. 14, by Bureau of Standards, for furnishing and delivering and erecting about 49,000 lbs. structural steel consisting of roof trusses, etc., also for 13,000 lbs. corrugated steel.

Franklin, O.—Until Mar. 19, by Co. Comrs. at Lebanon (M. E. Ross, clk.), for reconstructing bridge over Miami and Erie Canal at Vulcanite Roofing Co. plant here; superstructure to be 50 ft. span steel girder type of bridge, with 18 ft. roadway and 4 ft. sidewalk with creosoted block floor; abutments to be rebuilt will be of concrete.

Rhinelander, Wis.—Reported desired until Mar. 15, by Highway Comrs., for constructing Prairie Rapids Bridge, 3½ mi. s.e. of Cassian, 100 ft. long, riveted truss span, 16 ft. roadway; substructure contains 183.3 cu. yds. concrete.

Blair, Neb.—Reported desired until Mar. 20, Ove T. Anderson, co. clk., for constructing or repairing all bridges during 1917.

West Point, Neb.—Reported desired until Mar. 13 by R. Brazda, co. clk., for constructing all bridges and bridge repair work for the year 1917.

Britton, S. D.—Reported desired until April 3 by County for constructing culverts during 1917. C. Mohn, co. aud.

Winsor, Ont.—Reported desired until Mar. 20 by M. E. Brian for constructing bridge of concrete and steel 66 ft. wide and 32 ft. long on Wyandotte St. for City Council and Canadian Pacific RR.; cost about $15,000.

PRICES AND LETTINGS

★*Indicates award of contract.*

New York.—Following are 4 lowest bids on each of Barge Canal contracts opened Feb. 28 by Gen. W. W. Wotherspoon, state supt. pub. wks., 55 Lancaster St., Albany, N. Y.:

Clyde, N. Y.—Viaduct over Clyde River and railroad tracks; Lupfer & Remick, Buffalo, N. Y., $80,662; Troy Pub. Wks. Co., Inc., Utica, N. Y., $81,499; I. M. Ludingtons Sons, Inc., Rochester, N. Y., $82,757; Chelsey, Earl & Heimbach, Inc., Buffalo, N. Y., $83,725. (engr's estimate, $83,984.)

Little Falls, N. Y. (near).—Substructure and superstructure and completing approaches of highway bridge over Mohawk River; Chesley, Earl & Heimbach, Inc., $67,053; Troy Pub. Wks. Co., Inc., $70,443; M. Fitzgerald, Hoosick Falls, N. Y., $72,814; Lupfer & Remick, $77,632. (engr's estimate, $52,717.)

Schuylerville, N. Y.—Completing reconstruction of highway bridge over main channel of Hudson River; Great Lakes Dredge & Dock Co., Albany, N. Y., $39,758; M. Fitzgerald, $39,634; Holler & Shepard, Rochester, N. Y., $41,754; Troy Pub. Wks. Co., Inc., $42,637. (engr's estimate $30,753.)

★**Columbus, O.**—Contract awarded by county (bids opened Feb. 16) to construct superstructure requiring 237,000 lbs. steel, erected and painted, of Seymour bridge over Little Walnut creek on Groveport-Lithopolis pike, Madison Twp., to E. M. Scully, 1431 Eastwood Ave., Columbus, O., at $15,642 and for substructure to Capitol Constr. Co., Columbus, O., at $11,540. John Peake, co. surv.

★**Ponca Cty, Kan.**—Contract awarded by Kay and Nobel Cos. and federal government to Monarch Bridge Co., Wichita, Kan., at $18,000, to construct steel bridge, 500 ft. long, over Salt Fork branch of Arkansas River, south of here.

★**Horatio, Ark.**—Contract awarded by county (bids opened March 1) to Vincennes Bridge Co., Vincennes, Ind., at $11,995, to construct bridge over Little River, this place. L. F. Jones, co. judge, Ashdown.

REINFORCED CONCRETE

PROPOSED WORK

Camden, N. J.—Bids being received by Peuckert & Wunder, archts., 310 Chestnut St., Philadelphia, for erecting 1-story 50 x 125-ft. brick and concrete warehouse for Crane & Co., Camden.

East Orange, N. J.—General Electric Co. plans erecting 3-story brick and reinforced concrete 94 x 138 factory building here with wing 28 x 39 ft. to cost $80,000. Address J. G. Scott, East Orange.

Reading, Pa.—Philadelphia & Reading Ry. (S. T. Wagner, ch. engr., Reading Terminal Bldg., Philadelphia, Pa.), intends constructing this coming summer, concrete bridge, 80 ft. wide, over Lebanon Valley tracks on Center St. here; estimated cost between $30,000 and $40,000.

Augusta, Ga.—Plans being prepared by Nisbet Wingfield, comr. pub. wks., to replace present wooden bridge over canal on Jackson St. with concrete structure.

Kansas City, Mo.—Plans being prepared by Waddell & Son, Graphic Arts Bldg., Kansas City, Mo., to construct $110,000 steel and reinforced concrete viaduct, 876 ft. long, with two 144 ft. through truss spans with 24-ft. roadway and one 5-ft. sidewalk and with concrete approaches on 4th St. from West Bluff into West Bottoms, for city. Address J. P. Kane, secy., bd. pub. wks., City Hall.

Plans being prepared by Harrington, Howard & Ash, Orear-Leslie Bldg., Kansas City, Mo., to construct $36,000 reinforced concrete arch bridge, 80-ft. long, at Cliff Drive and Chestnut St., for city. Address T. C. Harrington, secy., bd. park comrs.

Dallas, Tex.—Reported E. W. Morten and C. A. Mangold will erect 10-story concrete hotel building at 312 S. Houston St. near Union Station to cost $100,000.

Fallon, Nev.—Nevada Valley Power Co., Fallon, contemplates constructing hydro-electric plant of reinforced concrete on Truckee River for developing 2,500 hp.

El Centro, Cal.—Reported A. L. Richmond, proprietor Barbara Worth Hotel, will erect $125,000 reinforced concrete addition to building.

Fresno, Cal.—Plans being prepared by Coates & Traver, Rowell Bldg., for erecting 1-story and basement brick and reinforced concrete 100 x 150 ft. produce market building at Van Ness Ave. and Kern St. for Louis Gundelfinger and others, to cost $65,000.

Long Beach, Cal.—Contract will soon be let by Bd. Pub. Wks., for constructing reinforced concrete seawall of Schlueter interlocking slab type reinforced concrete sidewalk with longitudinal center wall, end walls and steps, vitr. clay pipe culverts, etc., along Seaside Blvd. H. C. Wanghop, city clk.

Sacramento, Cal.—Contract will soon be let by Bd. Educ. for erecting reinforced concrete steel and brick Washington grammar school buildings, $200,000 available. Shea & Lofquist, archts., 742 Market St., San Francisco.

Waterford, Cal.—Waterford Irrig. Dist. contemplates constructing numerous reinforced concrete inverted siphons to carry canals under highways. Address Everett N. Bryan, ch. engr.

Tucson, Ariz.—Plans being prepared by William Curlett & Son, 518 Merchants Bank Bldg., Los Angeles, for erecting 6-story and basement 112 x 66 ft. 100-room reinforced concrete addition to Santa Rita Hotel building for L. F. Jaeger to cost $150,000.

BIDS DESIRED

New York, N. Y.—Until Mar. 15, by Park Bd., Dept. of Parks, Municipal Bldg., for constructing concrete bulkhead in vicinity of 165th, 170th and 184th Sts.; security $45,000.

Longport, N. J.—Until Mar. 24, by Bd. Comrs., for constructing about 6000 lin. ft. of reinforced concrete seawall, groynes, etc., advertised in this issue. William S. Gilmore, boro. clk.

Sidney, O.—Until March 24, by Geo. P. Staley, co. aud., for constructing concrete or steel bridge over Turtle Creek, ¼ mi. west of Hardin Station, in Washington Twp., to be 80-ft. clear span and 16-ft. roadway.

Sioux City, Ia.—Until Mar. 13, by Co. Aud., for constructing 18 reinforced concrete culverts for Farmers' Drain. Dist.; work includes about 560 cu. yd. concrete; G. Moriarty, engr., 600 United Bank Bldg., Sioux City.

Washington, Ia.—Reported desired until Mar. 15, by Co. for constructing 38 concrete culverts one 30-ft. I-beam span; two 30 ft. deck girder; three 20-ft. concrete slabs; one 50-ft. pony truss and one pair of concrete abutments; W. P. Rawn, Court House, co. engr.

Forrest City, Ark.—Until Mar. 31, by Co. Clk., for constructing 2 reinforced concrete bridges; Herring & Schellhous, engrs., advertised in this issue.

PRICES AND LETTINGS

★*Indicates award of contract.*

Philadelphia, Pa.—Lowest bid opened Feb. 17 by Dept. Pub. Wks. (G. E. Datesman, dir.) for steel bridge incased in concrete on 5th St. over Richmond branch of Philadelphia & Reading Ry., for which Common Council allotted $18,000, was from Monaghan & Losse, 3016 Chestnut St., $20,776; for 2 concrete bridges, 70-ft wide and 125-ft. long, over Cobb's Creek at 65th St. near Mt. Moriah cemetery, $28,000 allotted, was from Cantrell Constr. Co., 21st and Sedgley Sts. (only bidder), $47,500; all bridges in Kensington dist.

★**Alma, Kan.** — Contract awarded by county (bids opened Feb. 27) to John Lindgren, Alta Vista, Kan., at $10,478, to construct 43 bridges and culverts. L. B. Burt, co. clk.

Seattle, Wash.—Lowest bid opened by Bd. Pub. Wks. to construct concrete substructure for Eastlake Ave. bridge was from Ericksen Constr. Co., Seattle, at $195,704, for placing concrete dry, and at $270,989 for placing concrete wet.

Mt. Vernon, N. Y.—Following are 4 lowest bids opened Feb. 28 by Bronx Parkway Comn. (Jay Downer, engr. and secy.), Bronxville, N. Y., to construct Broad St. viaduct over New York Central RR. tracks and Bronx River Parkway Reservation, near Mt. Vernon: (a) The Crownbar Constr. Co., Inc., 417 W. 120th St., New Yok City, $92,590; (b) Michael Staub, 14 Ward Ave., Mamaroneck, N. Y., $97,070; (c) Averill-Matthews Co., 919 Essex Bldg., Newark, N. J., $97,350; (d) J. F. Cogan Co., 233 Bway., New York City, $106,067.

		(a)	(b)	(c)	(d)
2,400	cu. yd. earth excav.	$1.25	$1.80	$1.00	$2.10
80	cu. yd. rock excav.	2.00	2.50	3.00	5.00
4,500	cu. yd. refilling and embankment	0.50	1.10	1.00	0.90
7,700	bbl. Portland cement	2.75	2.15	2.25	2.15
3,500	cu. yd. concrete, Class A	5.00	6.20	7.00	6.15
90	cu. yd. concrete, Class B	15.00	20.00	17.50	21.00
2,400	cu. yd. concrete, Class C	5.00	6.40	10.00	7.47
20,000	sq. ft. surface finish of concrete by tooling	0.08	0.15	0.10	0.13
9,000	sq. ft. surface finish of concrete with granolithic finish	0.03	0.03	0.10	0.05
15,000	lb. steel for reinforcing concrete, consisting of structural shapes with riveted or bolted connections	0.075	0.075	0.06	0.07
210,000	lb. steel for reinforcing concrete, not included in Item 10	0.055	0.055	0.06	0.05
7,500	lb. miscellaneous cast iron, wrought iron and steel	0.10	0.07	0.08	0.07
500	lin. ft. vitrified pipe	0.60	0.40	0.50	0.75
50	cu. yd. crushed stone and gravel	2.00	3.00	2.50	2.50
2,500	sq. yd. waterproofing	0.50	0.48	1.00	0.45
2,150	sq. yd. bituminous pavement	0.60	0.50	0.50	1.70
370	sq. yd. gravel pavement	1.00	2.00	0.75	1.10
7,000	lin. ft. wooden piles below cut-off	0.65	0.55	0.40	0.45

ROADS AND PAVING

PROPOSED WORK

Boston, Mass.—Estimated cost of proposed extension of Clarendon St., which includes construction of new bridge over Boston & Maine RR. tracks and necessitates demolition of Old Back Bay Hotel, placed at $175,000, is favored by J. M. Curley, mayor; plan includes gift of land to city by Park Square Real Estate Trust.

Massachusetts.—State Senate considering bill authorizing appropriation of $5,000,000, of which not more than $1,000,000 is to be spent in any one year for state highway work. Address Com. on Roads and Bridges, State House, Boston.

Wakefield, Mass.—City intends paving 15,000 sq. yd. with tar macadam. O. H. Starkweather, supt. water, sewer and street dept.

Ansonia, Conn.—Bd. Pub. Wks. intends paving about 5200 sq. yd. with granite block. U. B. Clarke, city engr.

Amityville, N. Y.—Village Board has received petition to present $40,000 bond issue at coming village election to construct concrete curbs on and pave portions of Broadway and John St., also pave portion of Greene Ave.; Warrenite and concrete pavement being considered. Huntington R. R. is expected to pay for 8-ft. strip of pavement on Broadway. Address Saml. P. Hildreth.

Forestville, N. Y.—Village will vote at March election on question of issuance of $15,000 bonds for proposed paving of Main St.

Little Falls, N. Y.—Highway Com. of Bd. Supervs. has recommended construction, under county and town system, of following highways for which county pays 70 per cent and towns 30 per cent: Columbia, 6.92 miles, $54,800; Newport, 4.88 miles, $43,700; Ohio, 4.2 miles, $35,000; Webb, 2 miles, $16,000; Salisbury, 2.15 miles, $14,300.

Islip, L. I., N. Y.—Citizens of town considering election to vote $500,000 bonds for proposed road work.

Medina, N. Y.—Village Bd. Trustees intend asking voters at charter election March 20 to vote on proposed improvement of Main St.; brick pavement estimated at $24,000, cement at $18,000.

Saratoga Springs, N. Y.—John E. Hodgman, co. highway supt., estimates cost to construct road, 3 miles long, in town of Ballston, at $13,066 and road, 2.13 miles long, in towns of Northumberland and Saratoga, at $6,831. Wm. G. Wilsey, chmn. bd. supervs.

Camden, N. J.—Bd. Freeholders on Feb. 13 sold $104,000 bonds for proposed improvements of Grenloch, Sharp's Corner, Kresson and Moorestown roads and Kings Highway, Haddonfield; also for proposed work at Tuburculosis Hospital and the Almshouse.

New Jersey.—State Assembly passed bill authorizing the raising of $15,000,000 by taxation in various counties for proposed construction of state highway system.

South Orange, N. J.—Estimated cost of construction work involved in proposed opening of Tichenor Ave., placed at $10,000.

Toms River, N. J.—Bd. Freeholders have authorized $25,000 for road construction.

West New York, N. J.—All bids received by Town Council to repave Schley Place rejected as they exceeded engineer's estimate; low bidder, Clinton Contracting Co., West Hoboken, 140 per cent of estimate.

Turnersville, N. J.—Bd. Freeholders, Woodbury, intends to construct with concrete road 4 miles long from here to Cross Keys at estimated cost of $100,000; taxpayers, though, are desirous of having road graveled at estimated cost of $25,000.

Pemberton, Pa.—State Highway Dept., Harrisburg, intends constructing William Penn Highway, including a bridge from here to Union Furnace, with aid of appropriations made by Blair and Huntingdon Cos. (Hollidaysburg and Huntingdon, respective co. seats).

Scranton, Pa.—City (E. Kelly, clk.) intends grading, curbing and paving portion of Cedar Ave. in 20th Ward with asphalt on concrete base, at estimated cost of $28,215. Address Dept. Pub. Wks.

South Bethlehem, Pa.—City intends spending, this year, $150,000 for paving work, as follows: 1st Ward, 34,500 sq. yds.; 2d, 29,000 sq. yds.; 3d, 31,500 sq. yds.; 4th, 34,200 sq. yds.; 5th, 36,300 sq. yds. R. M. Brady, municipal engr.

Sewickley, Pa.—Edgeworth Town Council (Edw. A. Beck, secy.) intends grading and paving with vitrified block, partly 18 ft. wide and partly 24 ft. wide, and cement concrete base, and constructing combination cement concrete curb and gutter, 18 in. wide, on portion of School Lane and grade and construct combined cement concrete curb and gutter, 18 in. wide, and pave with bituminous concrete on cement concrete base, portions of Maple Lane, 20 ft. wide, and Worth Lane, 24 ft. wide.

Uniontown, Pa.—Co. Comrs. have authorized construction of brick roads, one in Menallen and other in Bullskin Twps.; state highway comn., has authorized $100,000 for paving of road from here to West Virginia State line.

Baltimore, Md.—Estimated cost to grade and pave portion of the Alameda, also open, grade and pave portion Sinclair and Wolfe Sts. and 13 others thoroughfares in northeastern section of city, for which Bd. Awards has plans, placed at $100,000. Address Comrs. for Opening Streets.

Buckhannon, W. Va.—Buckhannon Dist. (Ernest Phillips, clk.) will hold election March 17 to vote $180,000 bonds for proposed road improvements.

Fairmont, W. Va.—Grant Dist. will hold election March 27 to vote $195,000 bonds for proposed road construction work.

Paw Paw, W. Va.—Road improvement bonds for $330,000 will be sold Mar. 20, by A. C. Martin, co. clk.

Phillippi, W. Va.—Barker Dist. (R. S. Dayton, supt., Belington, W. Va.) will construct 18.7 miles of roads with own labor and pave same with waterbound macadam; $130,000 available. C. Swecker, engr., Century, W. Va.

Farrington, N. C.—Petitions being circulated in Williams Twp., asking for election to vote $30,000 bonds for proposed road work. Address Fred Bynum, Pittsboro.

Dunn, N. C.—City sold $100,000 bonds for proposed street improvement work.

Lillington, N. C.—Neils Creek Twp. intends constructing several miles of roads for which $15,000 is available. W. H. Hatchell in charge.

Marion, N. C.—City intends constructing, with city labor, pavements with concrete foundation on asphalt surface to cost about $40,000; address H. H. Tate.

Roxboro, N. C.—County will soon hold election to vote $300,000 bonds for proposed road construction work.

Tarboro, N. C.—Estimated cost of proposed street improvements placed at $250,000. W. M. Piatt, engr., Durham, N. C.

Taylorsville, N. C.—Surveys are being made by J. W. Hicks, engr., Taylorsville, N. C., of county roads for which bonds for proposed construction work were recently voted.

Anderson, S. C.—City sold on Mar. 1, $125,000 paving bonds and paving certificates in amount not less than $75,000 and not exceeding $125,000 for proposed paving work. I. T. Godfrey, mayor.

Spartanburg, S. C.—State Legislature, Columbia, has passed bill authorizing Spartanburg Co. to isssue $1,000,000 bonds for proposed construction of permanent roads.

Union, S. C.—Union Twp. will hold election Mar. 20 to vote $100,000 bonds for proposed highway work. Address Highway Comn.

Walterboro, S. C.—County will hold election April 3 to vote $500,000 bonds for proposed road construction work.

Alma, Ga.—County will hold election June 14 to vote $60,000 bonds for proposed road construction work.

Savannah, Ga.—County intends constructing 2 new roads, one from point 600 ft. west of 11 mile post on Montgomery road running south to bluff on Vermont River, grading same, 30 ft. wide, other road to be known as "Little Ogeechee Neck Road," from point half mile west of 14 mile post on Pine Barren road, running south and west toward Ogeechee River.

Statesboro, Ga.—City voted $60,000 bonds on Feb. 18 for proposed paving and water and lighting improvements.

Thomasville, Ga.—City contemplates issuance of $100,000 bonds for proposed street and sidewalk paving and other improvements. A. A. Riley, city clk.

Bartow, Fla.—County Comrs. authorized election March 10 in Lake Hamilton Special Road and Bridge Dist. to vote $100,000 bonds for proposed work.

Ft. Pierce, Fla.—County Comrs. intend holding election in county to authorize issuance of $300,000 bonds for proposed hard surfacing of highways.

Jacksonville, Fla.—Estimated cost of proposed paving work for which contracts will be awarded during this summer and fall, city paying 1/3 of cost, placed at $375,000; additional street work will include sewer and drainage work for which city voted $250,000 bonds in 1915.

Key West, Fla.—Bd. Pub. Wks. rejected all bids received for paving, curbing and guttering of streets; new plans will be prepared on which bids will be asked.

Tampa, Fla.—Wimauna Dist. voted Feb. 20 $30,000 bonds to extend Riverview road to Manatee Co. line; also 2 other roads. James G. Yeats, chmn. bd. comrs., Tampa.

Carrollton, Ala.—County Comrs. have issued $130,000 warrants for proposed road construction work.

Selma, Ala.—Dallas County's share of federal and state aid for proposed road construction work will total between $10,000 and $12,000.

Marksville, La.—Road Dist. No. 16, Avoyelles Parish, will hold election March 27 to vote $120,000 bonds for proposed graveling of roads.

Oberlin, La.—Road Dist. No. 2, Allen Co., intends spending $75,000 for proposed road work. Address Geo. M. King, Jr., Kinder.

Vicksburg, Miss.—County voted $75,000 bonds for constructing last link in "Mississippi Travelers' Highway" from here to Meridian through Jackson, 140 miles long.

Hohenwald, Tenn.—On Feb. 15 County sold $100,000 bonds for proposed highway work.

Jackson, Tenn.—Bd. Comrs. intend paving streets in business section of city with asphalt.

Jonesboro, Tenn.—County will hold two elections, one March 17 to vote $750,000 bonds, other April 7 to vote $500,000 bonds for proposed grading and macadamizing of roads.

Danville, Ky.—Estimated cost of proposed street improvements in city, this year, placed at $10,000.

Elizabethtown, Ky.—County intends reconstructing Elizabethtown - Leitschfield road at estimated cost of $32,000. Address Co. Clk.

Ashland, O.—For proposed road work, this year, county has obtained $40,000 federal aid and $17,500 inter-county aid and with $90,000 obtained from extra 2 mill levy will have $250,000 available; in addition, Ralph Scantlebury, co. highway supt., has asked for $34,000 from automobile fund for proposed road maintenance and repair work including widening road from Vermillion twp. line south to Hayesville, also 1 mile of road south from Sullivan, surfacing treating 1½ mile of old pike north of Sullivan and surfacing 2 miles of road north of Loudonville. Wesley Brubaker, member, co. comrs.

Atwater, O.—Township voted on Feb. 10 to pave highway south from Atwater center to county line at Limaville, probably with macadam; contracts will be awarded in fall; bonds will be issued. D. Logue, twp. clk.

Cincinnati, O.—City intends issuing $1,000,000 for proposed street improvement work.

Estimated cost of proposed improvement of Reemelin Road, placed at $11,300, by Wm. Boeh, co. surv.

No bids were received by city Feb. 15 for paving portions of Basset road and Beach Ave.

Dayton, O.—City Comn. has authorized issuance of $200,000 bonds to pay city's share of cost to pave streets this summer.

East Cleveland, O. (Cleveland, P. O.)—City Council intends selling $146,000 bonds to pave all unpaved streets, open all dead-end thoroughfares, and extend and straighten Terrace Road.

Hamilton, O.—Contracts will be awarded in early spring to pave portions of 1st, 3d and Juliet Sts. and Jackson Ave., for which city sold on Feb. 27, $64,689 street improvement bonds. E. M. Bronson, mayor.

Ohio.—Bill permitting state to share federal aid which amounts to $2,000,000 for this state for proposed road work has been passed by the House.

Portsmouth, O.—Surveys being made by John J. Harper, co. engr., to pave this summer, Portsmouth-Galena pike, 3 miles long; Munn's road, Lindsay Hollow road and Portsmouth-Ironton pike, east of Wheelersburg, each 1 mile long.

Anderson, Ind.—County Comrs. intend paving Madison Ave., 20 ft. wide, with brick, and 3d St. partly with concrete and partly with gravel. Virgil Lee, co. engr.

Evansville, Ind.—County sold on Feb. 21 $23,000 bonds to purchase rock for proposed road improvements. Newton Thrall, co. treas.

New Albany, Ind.—Bd. Pub. Wks. (Sam. T. Mann, city engr.), intends resurfacing portion of Pearl St. with asphalt, paving portion of Market St. with 8-in. concrete surface in center, 6-in. at curbs, with expansion joints, filler and steel protection plates and is considering improving portion of Spring St. with macadam. Albert C. Taylor, city clk.

South Bend, Ind.—No bids were received by county Feb. 26 to pave with concrete 10,500 lin. ft. road, 14 ft. wide; estimated cost $23,000. Henderson McClellan, co. surv.

Lansing, Mich.—Reported Frank Rogers, state highway comr., plans to improve about 1300 mi. of roads this year; about $1,600,000 available; twp. and road dist. will improve, in addition to above, about 300 mi.

Marshall, Mich.—Road bonds for $800,000 will be sold Mar. 15 by Will A. Cady, co. clk.

Mt. Pleasant, Mich.—Reported city intends constructing trunk line from here to Big Rapids, a distance of 40 mi. Address James C. Freeman, actg. surv.

Owosso, Mich.—City intends graveling and oiling 8 miles of streets, paving with brick several blocks and constructing 12,000 lin. ft. sidewalks and 8,000 lin. ft. curbs. F. A. Gould, city engr.

Belleville, Ill.—Plans being prepared by Wm. C. Wolf, city engr., to pave portions of Iowa and Missouri Aves. and East B St.

Bement, Ill.—Election will be held in spring on question of oiling about 20 mi. earth roads; address Otis Wiggins, twp. highway comr.

Carmi, Ill.—County postponed election to have been held Feb. 20 to vote bonds for proposed construction of hard surfaced roads. Matthew Martin, co. clk.

Decatur, Ill.—Estimated cost to pave 3,802 lin. ft. on Grand Ave. with asphalt surface, 1½ in. thick and asphalt binder, 1 in. thick, on 5-in. concrete base, placed at $36,160 by P. T. Hicks, city engr.

East Peoria, Ill.—Fond du Lac Twp. considering issuance of $30,000 bonds that it may obtain $20,000 state aid for proposed paving of road from here to Washington. Address J. E. Millard, secy., Fond du Lac Twp. Good Roads. Assoc.

East St. Louis, Ill.—City intends paving portion of 18th St., this spring, at estimated cost of $20,345. Fred W. Mollman, mayor.

Gibson City, Ill.—Contracts will be awarded in April by city to pave with brick on 4-in. concrete (1-2-4) base, total of 19,665 sq. yds., on portions of 9th and 10th Sts. and constructing 11,400 lin. ft. sandstone curbs; estimated cost $49,822. L. W. Limon, engr., Clinton, Ill.

Moline, Ill.—City intends paving portions of 16th and 17th Sts. with brick, this spring, at estimated cost of $33,000.

Paris, Ill.—Buck Twp. voted $35,000 bonds and a $1 levy for proposed hard surfacing of roads. Alex. Snedeker, comr.

Rock Island, Ill.—Portions of Sixth Ave., to be paved with brick to cost about $10,473. Wallace Treichler, city engr.

Rockford, Ill.—Bd. Local Impts. intends paving portion of 6th St. with brick at estimated cost of $16,000 and surfacing with asphalt with present brick pavement as base, portion of N. Main St. and have received petitions for street improvements costing $60,000.

Springfield, Ill.—Dept. Sts. and Pub. Impts. (Frank H. Hamilton, comr.) intend paving 66 blocks in business dist. with creosoted wood blocks and between trolley tracks on these blocks brick or granite pavement will be laid, which will be paid for by Street Ry. Co. (A. D. Mackie, gen. mgr.). Wade Seeley, city engr.

Sterling, Ill.—Estimated cost to pave present brick highway in Sterling Twp. with brick, placed at $16,508 and with concrete, $15,298. V. N. Taggett, co. highway supt.

Harrisburg, Ill.—Raleigh and this twp. intend constructing road, 2 miles long, between the 2 twps. C. S. Wills, town clk., Harrisburg.

Le Mars, Ia.—Contracts will be awarded this spring by city to pave 68 blocks.

Sioux City, Ia.—County intends constructing 12 miles of permanent roads, this year, as follows: Between here and Moville, 4 miles; between here and Smithland, 2½ miles; between Oto and Smithland, 2½ miles; between Moville and Correctionville, 3 miles; between Oto and Danbury, 1 mile.

Albert Lea, Minn.—Reported County intends spending about $46,000 on Federal Aid road improvements and $10,000 on miscellaneous road improvements; culvert material to be purchased; corrugated metal and concrete pipe used. E. V. H. Brown, co. highway engr.

St. Paul, Minn.—City Council Feb. 27 rejected contractors' bids, lowest being $43,950 plus 2 per cent for inspection, for paving portion of Roberts Ave. and will do work with own forces; engineer's estimate, $47,000.

Fremont, Neb.—City intends paving portions of Park Ave. 5th, Broad, Macon and 1st Sts.; total about 30,000 sq. yd.; material undecided. L. M. Roessler, city engr.

Madison, S. D.—City intends paving 15 blocks on Center St. involving 25,000 sq. yds.; this is in addition to work awarded Feb. 19. Chas. A. Trimmer, city engr.

Great Falls, Mont.—Bonds for $200,000 for road work will be sold Mar. 31, by F. C. Roosevelt, co. aud.

Benton, Mo.—County considering issuing $40,000 bonds towards construction of system of permanent roads. Geo. W. Pearman, co. clk.

Conway, Ark.—Petitions being circulated asking for creating of road improvement dist. to construct road from here through Beryl to Vilonia. Address Co. Clk.

McGehee, Ark.—Citizens of Desha, Lincoln, Drew, Chicot and Ashley Cos. plan formation of road district to be known as Arkansas and Louisiana Highway Improv. Dist with headquarters here, to construct 150 miles of macadam highway extending from Grady to Louisiana State line south of Kimball with branch running from here to Arkansas City. Address G. B. Ewing, judge, Arkansas City.

Amarillo, Tex.—Paving bonds for $150,000 will be sold March 20 by R. B. Newcome, city secy.

Cameron, Tex.—Mayesfield Road Dist. will hold election March 19 to vote $15,000 bonds for proposed construction of road from Walker's Creek to Harrel's Creek on Cameron-Port Sullivan road via Mayesfield. Road Dists. No. 7, 10 (including Rockdale) and No. 11 (including San Gabriel) will hold election March 23 to vote $20,000, $150,000 and $20,000 bonds respectively for proposed road construction work.

Caldwell, Tex.—City voted on Feb. 13 $12,500 bonds to grade and pave streets.

Corpus Christi, Tex.—City Comn., plans paving two streets to cost $52,852.

Dallas, Tex.—Estimated cost to pave Jefferson Ave. from 10th St. to Tyler St., 3 miles, in Oak Cliff dist., which City Comn. has agreed to have ordered paved, pending approval at election to be held in April, placed at about $500,000, of which Stone & Webster Consolidation (Chas. W. Hobson, representative) will pay $150,000; railway will double-track and lay heavier rails on right-of-way. Address H. D. Lindsley, mayor.

El Paso, Tex.—Reported city will spend about $40,000 for street grading. J. M. Gladding, city engr.

Edna, Tex.—Reported contract will soon be let by Co. Comrs for road work; about $56,000 available; address G. A. Bracher, engr.

Galveston, Tex.—See "Foundations, Piers and Dams."

McKinney, Tex.—Comrs. Court ordered election March 31, in Allen Road Dist. No. 10 to vote $100,000 bonds. W. L. Keen, co. clk.

Victoria, Tex.—City voted $100,000 bonds Feb. 20 which on one-third payment plan means $300,000, will be spent for proposed paving work. August Klein, mayor.

Alamogordo, N. M.—Reported County contemplates issuing about $300,000 bonds for constructing roads. Address Co. Clk.

Muskogee, Okla.—County will hold election Mar. 20 instead of Mar. 6 to vote separately on issuance of road and bridge bonds; total amount of bonds to be voted $1,000,000.

Oklahoma.—State Legislature authorized appropriation of $115,000, equaling state's share of federal road aid for proposed surfacing and construction of approximately 25 miles of hard surfaced roads; estimated cost $10,000 per mile. Max L. Cunningham, state highway engr., Oklahoma City.

Clarkston, Wash.—Contracts will shortly be awarded by city to pave and construct sidewalks on 2 streets in business dist.; estimated cost $12,000.

Ellensburg, Wash.—Estimated cost to construct concrete walks on portions of Chestnut, Walnut, Sampson, Sprague, 7th and 8th Sts., placed at $16,000. Reuben Crimp, city clk.

Everett, Wash.—Contracts will soon be awarded by city (Louis Lesh, clk) to improve 2 portions of Wetmore Ave. by removing old lumber, grading and paving with concrete, 28-ft. wide and constructing concrete curbs and gutters; estimated cost $25,000. Hans Munn, Jr., city engr.

Meyers Falls, Wash.—Cost to construct road leading from here will be apportioned as follows: Federal government, $20,000; state, $10,000; county $10,000. C. A. Heberling, co engr.; E. T. Gates, co. aud., both at Colville.

Port Angeles, Wash.—City intends paving with concrete, 18 ft. wide, grading, regrading and constructing drains, ditches and culverts in portion of 3d St., also to improve 2d St.; estimated cost $20,000. J. L. Beam, city clk.

Spokane, Wash.—City intends regrading, curbing, paving and constructing sidewalks on portion of Washington Ave.; estimated cost $18,000. Morton Macartney, city engr.

Bend, Ore.—City Council intends ordering construction 6 miles of sidewalks this year. Robert B. Gould, city engr.

Portland, Ore.—Contracts will soon be awarded by county to grade and pave and construct one undergrade crossing and several concrete bridges on 10 miles of St. Helens road, for which alternative bids on different types of pavement will be asked, placed at $250,000. John B. Yeon, co. roadmaster.

St. Helens, Ore.—Contracts will soon be awarded by county (A. F. Barnett, clk.) to hard surface 1 mile of road, 16 ft. wide, from Court House to depot; estimated cost $10,000. R. S. Hattan, co. judge.

Auburn, Cal.—County considering paving road between here and Colfax, 18 miles long, at estimated cost of $150,000.

Long Beach, Cal.—Contract will soon be awarded by Bd. Pub. Wks. to pave 357,131 sq. ft. with 1½ in. Warrenite on 4-in. concrete base and construct cement curbs and walks on portion of Anaheim St. H. C. Waughop, city clk.

Ontario, Cal.—Contract will soon be let for constructing about 428,000 sq. ft. of 4-in. concrete pavement, 27,500 lin. ft. concrete curbs and 400 cu. ft. concrete work for culverts. B. B. Mann, city engr.

Sacramento, Cal.—Contracts will soon be awarded by county to construct approximately 56 miles of highways.

Florence, Ariz.—Bd. Supervs. intend constructing road from Oracle to Walnut Tree ranch, 11.7 miles long, grade not to exceed 6 per cent; estimated to cost $10,000, as little rock will be encountered. County contemplates holding election to vote $100,000 bonds for proposed highway work and completing roads now under construction. W. W. Lane, co. engr.

Utah.—State Senate, Salt Lake City, passed bill authorizing issuance of $2,000,000 bonds for proposed construction of good roads in state.

Orofino, Idaho.—County planning highway dist. in which election will be held to ask authorization for contemplated expenditure of $400,000 for proposed road work. Jos. Kauffman, clk.

Quebec, Que.—Provincial Legislature has passed bill amending Good Roads Act that $20,000,000 bonds may be issued by province for proposed construction of good roads this year.

Toronto, Ont.—Estimated cost to pave 596 lin. ft. on Cherry St., 42 ft. wide, with granite block on 8-in. concrete base, and construct 1192 lin. ft. concrete curbing, placed at $41,346; and paving work in conjunction with widening 33 ft and extending Duplex Ave. 3972 lin. ft., placed at $33,500. T. L. Church, mayor.

Edmonds, B. C.—City intends spending $35,000 for proposed road and bridge work this year. Address Reeve Fraser, city comr.

BIDS DESIRED

Brooklyn, N. Y.—Until Mar. 14, by L. H. Pounds, boro. pres., for regulating, grading and laying sidewalks on various streets; some of streets are Duryea Pl., Jerome Ave., Union Pl., etc. Apply to Bureau of Highways, 50 Court St.

Until Mar. 15 by Park Bd. for regulating, grading, removing old sheet asphalt pavement and concrete foundations and constructing asphalt concrete pavement upon concrete foundation, laying cement sidewalks, etc., on portions of Eastern Parkway; security $40,000; also for paving with bituminous concrete portions of Ocean Parkway, Beverly Rd., etc.; security $1,000.

New Brighton, S. I., N. Y.—Until Mar. 13, by Calvin D. Van Name, boro. pres., for furnishing various road material such as 140,000 gal. bituminous material, 200,000 gal. asphaltic road oil, etc., in all about 11 items; security 30 per cent for each item.

New York, N. Y.—Until Mar. 15 by Park Bd., Municipal Bldg., for repaving with sheet asphalt and asphalt blocks on concrete foundation portion of Eastern Blvd., Bronx; security $20,000.

Baleville, N. J.—Until Mar. 29, by Twp. Committee Hampton Twp. (Chas. Emmons, clk., for graveling Newton-Baleville Road; F. Westervelt Tooker, engr.; advertised this issue.

Maplewood, N. J.—Until Mar. 20 by Twp. Committee (Edward R. Arcularius, clk.) for 3000 tons of trap rock of from 1½ to ¾ in., including screenings; also for about 60,000 gal. road oil f.o.b. South Orange.

Nutley, N. J.—Until Mar. 27 by Bd. Comrs. for constructing sidewalks, curbs and miscellaneous concrete work for the year 1917. Eliot N. Smith, town engr.

Passaic, N. J.—Until Mar. 14, by Bd. Freeholders (Geo. W. Botbyl, clk.), for repairing and macadamizing of 15 streets.

Rochelle Park, N. J.—Until Mar. 14, by Twp. Committee (Henry F. Meyer, clk.) for furnishing and spreading on various roads 1,000 cu. yd. trap rock.

Westfield, N. J.—Until Mar. 19 by Chas. Clark, town clk., for improving portions of Hillcrest, Kimball and Union Aves.; work includes about 4500 lin. ft. concrete curb and gutter, 11,200 sq. yd. 6-in. macadam pavement; 320 lin. ft. concrete culverts with iron tops; also for furnishing 90,000 gal. of refined tar for cold application to streets of town during 1917.

Ebensburg, Pa.—Until Mar. 22, by Herman T. Jones, co. controller, for reconstructing with vitr. fire clay or shale paving brick on a concrete base one mile, and 4862 ft. of Cresson Pike in Munster Twp., and for 660,000 No. 1 fire clay or shale paving brick delived to Munster Siding.

New Eagle, Pa.—Until Mar. 30, by Boro. (John G. Noble, secy.) for grading, paving with vitr. brick or block on portions of Main, Pine and Hemlock Sts.; work includes about 12,150 sq. yd. paving, 3200 cu. yd. grading, etc. A. L. McVicker, boro. eng., 305 Main St., Monongahela City.

Philadelphia, Pa.—Until Mar. 16, by Dept. Pub. Wks., for paving and repaving streets with asphalt, vitr. block, granite and wood block and for repairing bituminous pavements.

Baltimore, Md.—See "Structural Steel."

Easton, Md.—Reported desired until Mar. 27, by Co. Comrs. (Joseph B. Harrinton, clk.) for constructing 4 mi. sec. of State-aid highway along Easton Matthewstown Road; from end of Cont. No. 361; plans may be obtained from State Roads Comn., Garret bldg., Baltimore.

Lynchburg, Va.—Reported desired until Mar. 13, by Div. Engr's., office, 41 Medical Bldg., Lynchburg, for constructing bituminous macadam road about 11 mi. long in Brooksville Dist., also soil road 17.5 mi. long in Seneca Dist.

Roanoke, Va.—Reported desired until Mar. 22 for constructing concrete curb and gutter, macadamizing and laying granolithic sidewalks on various streets. Address City Engr.

Fayetteville, W. Va.—Until Apr. 2, by Co. Court (R. J. Stegall, clk.), for improving James River and Kanawha turnpike in Sewell Mt. Dist., bids on 2 different sections; bids to be received on bituminous macadam (penetration) Portland Cement concrete, asphaltic concrete and other suitable material; T. F. Maloy, engr., Landisburg. Advertised in this issue.

Jacksonville, Fla.—Until Mar. 24, by Bd. Port Comrs. (J. C. O'Dell, gen. mgr.) for not more than 125,000 vtr. paving blocks.

Palatka, Fla.—Until Mar. 20 by A. K. Hutchinson, city clk., for constructing about 6000 sq. yd. No. 1 vitr. brick pavement. S. C. Stallings, city engr.

Panama City, Fla.—Until Mar. 26, by Co. Comrs. (W. H. Marshall, clk. circuit court), for constructing road system; work includes about 16 mi. paved road 39 mi. clay gravel road and 140 mi. cleared and graded road; also for constructing wooden bridges; address Gordon Sumner, co. engr., Panama City.

Brooksville, Ky.—Reported desired until Apr. 3, by Co. Comrs., for resurfacing about 40 mi. water bound macadam road; also for constructing 40 ft. steel bridge with concrete abutments and corrugated iron culvert pipe for the year 1917; Roland R. Pyne, co. engr.

Cincinnati, O.—Until Mar. 15, by Ernst Von Bergen, city purch. agt., for furnishing 40 tons refined natural lake asphalt to Street and Sewer Depts.

Until Mar. 14, by Chas. F. Hornberger, dir. pub. serv., for oiling macadam streets in Dists. Nos. 1, 3, 4, and 5, cost about $26,484; Frank S. Krug, city engr.

Cleveland, O.—Reported desired until Mar. 21, by Co. Comrs. (E. C. Krause, clk.), for paving Detroit-Superior Bridge approaches. etc., certified check for $10,000 to accompany bid.

Columbus, O.—Until Mar. 28 (readvertisement) for constructing roadway on the superstructure of Seymour bridge. Address John Peake, co. surv.

Marion, O.—Reported desired until Mar. 16 by city for constructing 20,000 sq. yd. pavement; E. S. Ault, city engr.

Ann Arbor, Mich—Reported desired until Mar. 15, by County for paving about 10 mi., in sections of one to three mi.; J. J. Cox, engr., University of Michigan.

Appleton, Wis.—Reported desired until Mar. 14 by City Clk for paving with concrete, brick, sandstone or asphalt on Sherman Pl., Maple, Grove and other streets.

Plymouth, Wis.—Until Mar. 26 by H. A. Luedke, city clk., for furnishing and laying about 15,446 sq. yd. pavement; also concrete curb and gutter; bids will be received on reinforced concrete, vitr. brick, asphaltic concrete and asphaltic macadam; specifications may be obtained from clk. and from engr., at 22 N. Carroll St., Madison.

Racine, Wis.—Until Mar. 17 by Bd. Pub. Wks. (P. H. Connolly, chmn.) for grading and paving portions of Washington Ave., Carlisle, Hamilton, Wison Sts.; work includes about 28,767 sq. yd. brick pavement, 14,799 lin. ft. combined curb and gutter, 1559 sq. yd. reinforced concrete pavements, etc.

Until Mar. 24 by above for portions of 10th St., Phillips Ave. and Riverside Drive; work includes about 4622 sq. yd. asphalt macadam, 7883 sq. yd. pavement, together with curbs and gutters.

Audubon, Ia.—Until about Mar. 25 (extension of time), by Geo. Kellog, city clk., for paving several streets involving 8400 cu. yd. grading, 40,750 lin. ft. curb and gutter, 57,570 sq. yd. brick cement or asphaltic concrete.

Burlington, Ia.—Until Mar. 15, by E. P. Weinstein, city clk., for 7300 sq. yd. brick pavement on 6-in. concrete foundation, 4300 lin. ft. curb and 5000 sq. yd. 7-in. thick concrete pavement and 2200 lin. ft. curbing; Chas. E. Waterhouse, city engr.

Primghar, Ia.—Reported desired until Mar. 15, by E. J. Riegel, co. aud., for grading and earth resurfacing; cost about $13,000.

Fargo, N. D.—Reported desired until March 14, by A. B. Watkins, city aud., for paving; work includes 5 different jobs, to bid on separately; cost between $293,000 and $391,000.

Sioux Falls, S. D.—Reported desired until Mar. 23, by John Mullen, city clk., for paving Dist. No. 14; cost of brick pavement about $35,581, including intersections; conc., $28,439; also for paving Dist. No. 15.

Kansas City, Mo.—Until Mar. 14, by T. C. Harrington, secy. bd. park comrs., for constructing bituminous macadam pavements, concrete sidewalks, etc., on portions of Budd Park Esplanade, Brush Creek and Brookside Blvd.

St. Louis, Mo.—Until Mar. 16, by City for improving portions of Union and Genevieve Aves.; address pres. bd. pub. serv., New City Hall.

Pagosa Springs, Col.—Reported desired until Mar. 13 by Eleanor H. Todd, co. clk., for constructing portion State Primary Road No. 67.

Colton, Wash.—Until about April 1 by city to pave 1 mile of streets in business center; estimated cost $16,000.

Everett, Wash.—Until Mar. 19, by Mae Weatherbee, co. aud., for grading, draining, hardsurfacing Bond Issue Prop. Nos. 4, 5, and 34. W. C. Bickford, co. engr.

Until Mar. 26, by the above, for grading, draining, and hard-surfacing with one course concrete bond issue prop. No. 15, and also for constructing permanent highway No. 27.

Tacoma, Wash.—Until Mar. 17, by Bd. Co. Comrs. (Thos. N. Morris, co. aud.) for improving part of Hill Road to Puyallup, a distance of about 3.66 mi., with bitucrete, warrenite and asphaltic surface.

Fresno, Cal.—Until about Mar. 20, by city, for furnishing 5000 to 8000 bbl. road oil; address W. H. Ryan, city clk.

Burlington, N. C.—Following are unit bids received by city March 2 for street paving work: (a) Central Constr. & Supply Co., Harrisburg, Pa., will probably be awarded contract; (b) Gulf Paving Co., Chattanooga, Tenn.; (c) Lawson Constr. Co., Norfolk, Va.; (d) R. G. Lassiter Co., Oxford, N. C. E. C. Derbey, city engr.

	(a)	(b)	(c)	(d)
46,000 sq. yd. sheet asphalt, lake	$1.94	$1.95	....	$1.98
46,000 sq. yd. sheet asphalt, oil	1.79	1.81	$1.82	1.82
46,000 sq. yd. asphaltic concrete, lake	1.84	1.85	....	1.86
46,000 sq. yd. asphaltic concrete, oil	1.69	1.71	1.72	1.72
350 ft. 20-in. t.-c. drain pipe	1.02	1.50	1.50	1.20
1,000 sq. yd. concrete gutters	1.48	1.60	1.40	1.50
600 ft. new granite curbing	0.55	0.58	0.55	0.60
20,000 ft. combined curb and gutters	0.62	0.65	0.65	0.68
150 ft. concrete drainage channels	2.00	2.50	2.10	2.30
25 c. b. remodeled	12.50	14.00	15.00	15.50
C. b. new	30.00	25.00	32.50	32.00

Seal Beach, Cal.—Until Mar. 15 by Henry Anderson, city clk., for constructing sewer system, requiring about 45 flush tanks, 78 manholes, 40,150 ft. of from 8 to 18-in. pipe. Olmsted & Gillelen, engrs., 1112 Hollingsworth Bldg., Los Angeles.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**South Manchester, Conn.** — Contract awarded by city to W. F. Potter, Montowese, Conn., at about $20,000, to construct concrete walks and granite curbs on various streets.

★**Lockport, N. Y.**—Contract awarded by Bd. Supervs. (bids opened Feb. 26) to town of Newfane, at $32,549 (only bid) to construct Hess road in town of Newfane; no bids were received for part 2, Lockport-Warrens Corner stone road. F. H. Krull, co. clk.

★**Syracuse, N. Y.**—Contract awarded Feb. 21 by Bd. Contract and Supply to Guy B. Dickison, Union Bldg., Syracuse, to pave with asphalt portions of Almond St., at $17,876, and South Wilbur Ave. at $11,061.

New Brunswick, N. J.—Following are 3 lowest bids received by Bd. Freeholders to repair South Amboy-Sayreville road: Liddle & Pfeiffer, $52,571; Graham & McKeon, both of Perth Amboy, N. J., $53,057; Utility Constr. Co., New Brunswick, N. J., $54,098.

★**Fayetteville, W. Va.**—Contracts awarded by county (bids opened Feb. 19) for road construction work as follows: With concrete, 9 and 14 ft. wide, sect. 1, Raleigh Co. line to Glen Jean, 5.4 miles, to Hatfield Constr. Co., Huntington, W. Va., at $101,680; concrete, 14 ft. wide, sect. 2, Glen Jean to Oak Hill, via Scarboro, 3.8 miles, to Central Engr. Co., Charleston, W. Va., at $79,519; bituminous macadam (penetration), 14 ft. wide, sect. 3, Oak Hill to Fayetteville, 7.2 miles, to Bickel Asphalt Paving Co., Louisville, Ky., at $107,989; grading only, road along Loop Creek from Glen Jean to Thurmond, $56,390, and constructing 9 arch bridges, $33,225, on road, to Henning & Hagedon, Birmingham, Ala.

Cleveland, O.—Lowest bid received by city to pave and widen portion of Euclid Ave.—old millionaire row—was from Bentley Bros., Electric Bldg., and $124,500 above engineers' estimate.

★**Columbus, O.**—Contract awarded Feb. 24 by Service Director Borden for street work, as follows: Brick paving; portions of Taylor Ave. ($10,474) and Dupont Ave. ($4,781), to A. G Pugh; portions of Bismarck St. ($12,987), Fulton St. ($11,894) and South Lane Ave. ($7,489) to Geigle & Son, 52 East Fulton St.; portions of Kenworth road ($28,768) to D. E. Sullivan & Son, Interurban Terminal Bldg.; portion of Pearl St. ($22,475) to B. F. Patterson, Hartman Bldg.; asphalt paving, portions of Hinman Ave. ($27,255) and Thurman Ave. ($18,019) to Andrews Asphalt Paving Co., Columbus Savings & Trust Bldg.; portions of 21st St. ($23,767) and Gay St. ($2,168) to A. G. Pugh.

★**Indianapolis, Ind.**—Contract awarded by county to H. L. Findley, Noblesville, Ind., at $17,474, for county road work.

★**Hudson, Mich.**—Contract will be awarded by Township (Clyde L. Lowe, clk.) probably to Johnson & Flodin, 3204 North Clark St., Chicago, Ill., at $93,845, to construct 16 miles of class "C" roads including construction of cement culverts and retaining walls and steel bridges.

★**Virginia, Ill.**—Contract awarded by city to John G. Pratt, at about $10,000, to pave Moran St.

★**West Frankfort, Ill.**—Contract awarded by city (bids opened Feb. 27) to John Dorris, Jr., Harrisburg, Ill., at $78,249 (engineer's estimate $79,685) to pave 34,600 sq. yd. with one-course concrete (1:2:3), with 2-in. granite on two-course concrete (1:2:4) base, triangle mesh steel wire reinforcing; other bidders, Hoeffken Bros., Belleville, Ill., $81,526; Western States Constr. Co., Omaha, Neb. $86,567; Dunlap & Dippold Co., Terre Haute, Ind., $88,805. P. B. Wilson, engr. Marion, Ill.

★**Whitewater, Wis.**—Contract awarded by city to Ed. Bartlett, Watertown, at $63,045, to pave Main and Whitewater Sts.

★**Waterloo, Ia.**—Contract awarded by city (bids opened Feb. 26) to Bryant Asphalt Paving Co., Black Hawk Bldg., to pave 9 miles of streets. R. L. Degon, city clk.

★**Salina, Kan.**—Contract awarded by city to A. R. Young & Co., Lawrence, Kan., at $1.90 per sq. yd., to pave including necessary excavation with one course vitrified vertical fibre wire cut brick on 5-in. concrete base with asphalt filler on portions of College and Prescott Aves., Bishop, Bond and 12th Sts., and to L. H. Lyon, local, at $0.45 per lin. ft. for cement curbs, $0.46 per lin. ft. for cement gutters, $0.91 per lin. ft. for combination curb and gutters and $0.95 per lin. ft. for 2-piece curb and gutter placed on portions of 5th, 7th, 12th, Bishop and Bond Sts., and College and Prescott Aves. Chas. E. Banker, city clk.

★**Pollok, Tex.**—Contracts awarded by county (bids opened Feb. 13) to C. M. McConnico, Lufkin, Tex., at $75,000, to construct 40 miles of road between Pollok and Zavalia. R. C. Jordon, co. clk., Lufkin.

★**Everett, Wash.**—Contract awarded by city to Grant & Ervig, Everett, at $11,874, to pave portion of Baker Ave.

★**Seattle, Wash.**—Lowest bid received by county to pave permanent highway No. 15 with one course concrete, placed at $20,940. S. J. Humes, co. engr.

★**Fresno, Cal.**—Contract awarded by Co. to Union Oil Co. of California, Fresno, at $1.25 per bbl. f.o.b. cars shipping point for furnishing not less than 80,000 nor more than 100,000 bbl. road oil. T. E. Prior, deputy co. clk.

★**Riverside, Cal.**—Contract awarded by city (bids opened Feb. 27) to Johnson-Shea Co., Riverside, at $10,377, to pave with macadam and construct concrete curbs, gutters, cement walks and concrete and iron catchbasins in 4½ blocks of Market St.

★**San Fernando, Cal.**—Contract awarded by city to E. S. Groshong, Burbank, Cal., at $10,025, to pave 74,820 sq. ft. with macadam, construct 4000 lin. ft. cement curbs and 28,000 sq. ft. cement walks and install ornamental lighting system in portions of Harps and 1st St.

★**St. John, N. B.**—Contract awarded by G. Fred. Fisher, comr. pub. wks. (bids opened Feb. 26) to Imperial Oil Co., Montreal, Que., at $24.90 per ton for furnishing 400 tons of Mexican asphalt.

RAILWAYS
Steam and Electric

PROPOSED WORK

Albany, N. Y.—See "Structural Steel."

New York, N. Y.—Lehigh Valley RR. (E. B. Ashby, ch. engr.), will expend $5,000,000 for improvements during 1917, including $1,000,000 for additional round house facilities at Buffalo, and electrification of main line through Pennsylvania mountains and of the branches in the anthracite region, and completion of four-tracking of line from the anthracite fields to New York Harbor, etc.

Application has been made to Pub. Service Comn., 1st District, by Interborough Rapid Transit Co., for permission to issue $16,436,000 bonds to be used as follows: Alterations in power plants $2,391,000; extensions and equipment, $2,533,000; 3d track installation and equipment $10,444,000.

Pittsburgh, Pa.—Pittsburgh & Shawmut R. R. Co. (D. C. Morgan, gen. mgr., Kittanning) considering elimination of 14 grade crossings in Washington, East Franklin, North Buffalo, and South Buffalo Twps. in Armstrong Co.

Pottsville, Pa.—Reported Philadelphia & Reading Ry Co. (S. T. Wagner, ch. engr., Philadelphia) plans to equip its system from here to Schuylkill Haven and thence to Reading, a distance of 37 miles for electrical operation; cost estimated at $750,000.

Baltimore, Md.—Western Maryland R. R. Co. (C. R. Gray, Pres.) considering construction of additional 2nd track and relocating the company's line between Emory Grove and Hagerstown.

Winchester, Va.—Williamsport, Nessie & Martinsburg Ry., which is being built from Williamsport, Md., to Martinsburg, W. Va., will be extended to Winchester.

Americus, Ga.—R. N. Berrien, Jr., of Atlanta, and Crawford Wheatley, of Americus, are about to petition State Dept. for a charter for Americus & Atlanta R. R. Co.; proposed capital $150,000. Wallis & Fort, attys., Americus.

Savannah, Ga.—Two plans for eliminating the Atlantic Coast line grade crossings in southern section of city being considered by City Council; Plan A, elevating tracks at Estill Ave. and Bull St. 15 ft., which would not change the grade of the streets, estimated cost $394,000; Plan C, partial raising of the tracks with depression of certain streets to variable depths; cost $393,000. E. R. Conant, city engr.

Chillicothe, O.—Norfolk & Western R. R. Co. (J. E. Crawford, ch. engr.) wll co-operate with city to eliminate E. Main St. grade crossing and join with Baltimore & Ohio R. R. Co. (R. N. Begien, ch. engr., Baltimore, Md.) cost divided between railroads jointly to pay 65 per cent and city 35 per cent.

Marion, O.—Reports state Cleveland, Cincinnati, Chicago, & St. Louis R. R. (C. A. Paquette, ch. engr., Cincinnati) plans double-tracking the roadway between here and Bellefontaine.

Youngstown, O.—Reports state Erie R. R. Co. (R. S. Parsons, ch. engr., New York) plans expenditure of $5,500,000 for following improvements: eliminating grades and curves between here and Cleveland; constructing roundhouse, repair shop and erecting 9-story passenger station and office structure and eliminating grade crossings, freight yard capacity for 2,500 cars.

Lafayette, Ind.—According to a recent report by J. W. Kendrick, of Chicago, the Missouri, Kansas and Texas R. R. (L. F. Lonnbladh, ch. engr., Dallas, Tex.) should spend $65,000,000 during next 8 years, including $12,500,000 for track replacement, drainage, ballast, protection to roadbed and bridges and $14,000,000 for grade revision and extensions.

Ft. Wayne, Ind.—Eng. Dept. of Wabash R. R. (A. O. Cunningham, ch. engr., St. Louis, Mo.) has submitted plans for track elevation at Hanna St.; cost $21,418, and Lafayette St. at $24,418.

Dallas, Tex.—See "Structural Steel."

Corcoran, Cal.—Chas. W. King, Hardwick, having surveys made for narrow gauge steam railroad, from here to Tulare Lake district, about 25 miles. Carroll W. Gates, 831 Van Nuys Bldg., Los Angeles, Stoddard Jess, pres., First National Bank, Los Angeles, and others are financing the project; cost about $200,000.

Fullerton, Cal.—Pacific Electric Ry. Co. (J. McMillan, gen. mgr., Los Angeles), will lay tracks in Orange Co., and also in the county outside incorporated territory; Railroad Comn. also authorized company to construct overhead crossing of Spadro Rd.

Lamoine, Cal.—Lamoine Lumber & Trading Co., Lamoine, considering construction of 8 miles of narrow-gauge logging railroad.

Toronto, Ont.—Canadian Pacific R. R. (Grant Hall, gen. mgr., Winnipeg, Man.) reported to have completed plans for double tracking from North Toronto station to Leaside, grade crossings at McLennan and Summerhill Aves. and Todmordern road in Township of York.

BIDS DESIRED

San Francisco, Cal.—Until Mar. 14, by City for constructing Market St., section of Municipal Ry., Church St., cost about $90,000.

PRICES AND LETTINGS

★Indicates award of contract.

★Collingwood, Tenn.—Contract reported awarded by Tennessee Valley Iron & RR. Co. (W. A. Seymour, ch. engr.), for its projected Wayne-Hardin Ry. from here to Savannah, about 40 miles, to Oliver Contr. & Eng'g. Co., Maryville.

★Clearwater, Mont.—Contract awarded by Chicago, Milwaukee & St. Paul Ry. (C. F. Loweth, ch. engr., Chicago, Ill.) for constructing 33 miles of railroad from here to Lincoln, in Lewis and Clark County.

★Shattuck, Okla.—Contract awarded for 85 miles of railroad work for Santa Fe RR. (J. A. Jaeger, ch. engr., Prescott, Ariz.) from here to Hansford, Tex., to L. B. Smith Constr. Co., complete line including track laying, bridging, surfacing, depots, etc. John B. Hall, supt., Shattuck.

★Portland, Ore.—A. L. Barbur, city aud., reports City Council has awarded contract for work in connection with the elimination of all grade crossings on Oregon-Washington R. R. & Navigation Co.'s line in Portland to Pearson Constr. Co., New York Block, Seattle, Wash., at $513,457. Work includes 7 reinforced concrete viaducts, Philip Dater, city engr., estimated cost at $513,606.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK

Camden, N. J.—See "Reinforced Concrete."

East Orange, N. J.—See "Reinforced Concrete."

Philadelphia, Pa.—Bellevue Worsted Mills will erect 3-story 500 x 56 ft. mill building at 16th and Hunting Park Ave., to include dye house 80 x 50 and power house 40 x 80. W. E. S. Dyer, engr. and archt., Land Title Bldg., Philadelphia.

Treen Box Co, will erect power plant 30 x 60 ft. and 3 story building 100 x 60 ft. W. E. S. Dyer, engr. & archt.

Wilmington, Del.—Reported Pusey Jones Co. will erect two buildings, 60 x 323 ft. and 62 x 109 ft. each, to cost about $100,000.

Wheeling, W. Va.—Reported Whitaker-Glessner Co., here, will erect steel plant and furnaces in Beach Bottom, Brooks Co., W. Va., to cost about $20,000,000.

Anniston, Ala.—American Net & Twine Co. (H. F. Williamson, mgr.), will erect new mill to cost $200,000.

Youngstown, O.—Reported Erie R. R. (R. S. Parsons, ch. engr., New York, N. Y.), will erect roundhouse and repair shops few miles west of city to cost $500,000; work will begin in early spring.

Warren, O.—General Electric Co. (F. C. March, supt.) will erect addition to Ohio lamp works to cost about $250,000.

Decatur, Ill.—Willimas Sealing Corporation, Waterbury, Conn., will erect new plant here to cost about $51,000.

Manitowoc, Wis.—Plans being prepared by Woodmansee-Davidson Co., 1426 Natl. Bank Bldg., for erecting electric power plant for Wisconsin Securities Co., 1410 First Natl. Bank Bldg., to cost $250,000.

Milwaukee, Wis.—Standard Steel Co. (J. D. Guenther, pres., 701 Merritt Bldg.), will erect 2-story brick and corr. iron factory building, to cost $50,000.

St. Paul, Minn.—Thompson Shoe Co. (D. D. Smith, secy.), will erect shoe factory at 9th and Rosabel Sts., to cost $125,000.

Fargo, N. D.—Plans being prepared for erecting addition to factory of Manchester Biscuit Co. (Ralph J. Cone, mgr.), to cost $100,000.

North Yakima, Wash.—Earl Fruit Co. (F. V. Martin, gen. supt.), Spokane, will erect, in the spring, warehouse and cold storage plant to cost $150,000.

BIDS DESIRED

Jasper, Ind.—Until Mar. 13, by Jasper Novelty Works, for erecting 3-story brick addition, 40 x 150 ft., with basement; and for 1-story brick dry house.

Enderlin, N. D.—Reported desired until Mar. 24, by Farmers' Elevator Co., for erecting grain elevator 90 ft. high, 35 x 40 ft.; E. D. C. Harper, archt.

PRICES AND LETTINGS

★Indicates award of contract.

★Pawtucket, R. I.—Contract awarded by Solway Dyeing and Bleaching Co., to Frank G. Rowley Co., local, for erecting 105 x 166 ft. addition to mill to cost about $50,000.

★New Britain, Conn.—Contract awarded by New Britain Machine Co., Chestnut St., to W. H. Allen for erecting additional 2 stories to present 5-story building to cover 400 ft. and to cost $60,000.

★Philadelphia, Pa.—Contract awarded by American Engineering Co. to Austin & Co., Transportation Bldg., for erecting 1-story 200 x 300 ft. brick and steel factory building at Wheatsheaf Lane and Amber St. to cost about $150,000.

★Pitcairn, Pa.—Contract awarded by Pennsylvania R. R. to Roberts & Schaefer Co., 332 S. Michigan Ave., Chicago, Ill., for erecting 2-track coaling plant, consisting of two "Rand" gravity sand plant and timber construction; also an electric coaling plant for Allegheny engine house.

Seattle, Wash.—See "Foundations, Piers and Dams."

★Astoria, Ore.—Contract awarded Victor Westerund, local contr., for erecting 3-story 40 x 80 ft. factory building to cost $60,000 for Astoria Soap Co.

BUILDINGS Public and Private

PROPOSED WORK

Waterville, Me.—Reported Ex-Governor Wm. T. Haines will erect theater building here to cost $50,000.

Albany, N. Y.—Trustees of Cathedral of Immaculate Conception will erect school building on Elm St., near Hawk, early in spring to cost $100,000.

Ogdensburg, N. Y.—Mayor Julius Frank has appointed Aldermen Wert, Craig, Kelly and Bowers to select site on which to erect public market to cost $130,000.

Atlantic City, N. J.—Atlantic City Hotel Co., incorporated to erect hotel building on boardwalk at Delaware and States Aves. to cost about $1,750,000. E. H. Cuthbert, Atlantic City, reported interested.

Bayonne, N. J.—Bd. Educ. plans erecting school building to cost $25,000 and addition to No. 11 school building at cost of $50,000. Address Mayor P. P. Garven.

Cape May, N. J.—Bd. of Educ. will erect addition to school building on Washington St. to cost $60,000.

Freehold, N. J.—Citizens voted $100,000 bond issue for erecting high school building. Address Bd. Educ.

Freehold, N. J.—Bd. Educ. voted $100,000 bonds for erecting additional high school building to cost about $82,000.

New Brunswick, N. J.—Bd. Educ. will erect junior high school building to cost about $250,000 on site of old Livingston high school building.

Hazleton, Pa.—Duplan Silk Mill here will erect large clubhouse for girl employees to cost over $100,000; will be erected near plant.

Philadelphia, Pa.—Plans being prepared by Mellor, Meigs and Howe, 205 S. Juniper St., for extensive improvements to Philadelphia club to cost $100,000 at N. W. corner 13th and Walnut Sts.

West Chester, Pa.—Reported Bd. Educ. will erect public school building to cost about $150,000.

Canton, Ohio.—School bonds for $191,000 will be sold Mar. 19 by Bd. Educ. (W. C. Lane, clk.)

Cincinnati, O.—Bonds for $500,000 for erecting court house will be sold Mar. 13 by Co. Comrs. (Fred E. Wesselmann, pres.).

Middletown, O.—Bonds for $50,000 for erecting high school building will be sold Mar. 19, by Bd. Educ. (E. L. Banker, clk.)

Middletown, O.—Bd. of Educ. issued $50,000 bonds for erecting school buildings to relieve congestion.

Rock River, O.—Plans prepared by Wm. H. Nickals, 1900 Euclid Ave., Cleveland, for erecting high school at corner of Lakeview and Riverside roads to cost $60,000.

Springfield, O.—Reported election held Feb. 21st for issuing $75,000 bonds for erecting school building in Johnson St. district carried.

Youngstown, O.—Bd. Educ. (Chas. Baird, pres.), will erect school building on site at Ford Ave. at Norwood and Crandall Aves. to cost $150,000.

Batesville, Ind.—Bids being received by Howard McClorey, archt., Gerke Bldg., Cincinnati, for erecting $50,000 school building for St. Louis Congregation here to contain eight class rooms and auditorium.

South Bend, Ind.—Bd. Educ. will erect new school building to be known as Washington building, on Sample St., to cost $133,000.

Carrollton, Ill.—Reported U. S. post office to cost $50,000 will be erected here this spring.

Chicago, Ill.—A. W. Shaw Co., 5 N. Wabash St., has purchased site at Superior St. and Lincoln Parkway for $200,000 and will erect 7-story building to cost about $150,000.

Buildings and Grounds Committee of Bd. Educ. approved $320,000 appropriation for erecting new 32-room school building at W. 18th St. and S. Keeler Ave.

Jerseyville, Ill.—Reported new federal building to cost $65,000 will be erected here in near future.

Appleton, Wis.—Building trustees of Lawrence College will erect $125,000 auditorium building.

Madison, Wis.—Plans being prepared by Childs & Smith, 122 S. Michigan St., Chicago., for erecting church to cost $225,000 for Wesley Foundation Methodist Church. Rev. W. Blackeman, Pastor.

Milwaukee, Wis.—Plans being prepared by Schmidt, Garden & Martin, 104 Michigan Ave., Chicago, for erecting first unit of hospital building for Columbia Hospital (F. L. Sawyer, pres., 830 Sycamore St.), first unit to cost $100,000; total cost, $400,000.

Bids being received by Leiser & Holst, 402 Germania Bldg., for erecting apartment building for John Hunholz, 2310 Vliet St., to cost $50,000.

Milwaukee, Wis.—Bd. Educ. will erect school building for Boy's Trade School at Hanover and Virginia Sts., to cost $55,000.

Davenport, Ia.—Bond issue of $450,000 for erecting school buildings will be held Mar. 12.

Plans being prepared by Temple & Burrows, local, for erecting addition to St. Luke's Hospital, to cost $140,000. Bids will soon be called.

Des Moines, Ia.—Election will be called for issuing $350,000 bonds for erecting municipal building. Horace Susong, city clk.

J. R. Condon, Equitable Bldg., has purchased site and will erect 6-story apartment building to cost $50,000.

Estherville, Ia.—Reported Frank King will erect new opera house here to cost $50,000.

Marshalltown, Ia.—Appropriation of $60,000 for erecting addition to soldier's home passed at Legislature, Des Moines.

Mason City, Ia.—Masonic Temple will be erected by A. F. and A. M. Lodge, No. 45 (C. P. Shipley, secy.); cost, $100,000.

Ness City, Kan.—County Comrs. have entered into contract with J. C. Holland & Son, archts., Topeka, for preparing plans and managing the erecting of a court house here to cost about $70,000.

Cadron, Neb.—Contract will soon be let for erecting U. S. post office to cost not more than $110,000.

Omaha, Neb.—Hoagland Lumber Co. will erect 6-story building on site of present offices of company, at Ninth & Douglas Sts.; Thos. R. Kimball, archt., to cost $200,000. Work will begin in two months.

Butte, Mont.—Plans being prepared by Floyd Hammill for erecting Deaconess Hospital building to cost $100,000.

Ackerman & Harris, owners of Hippodrome Vaudeville Circuit, San Francisco, plan erecting $250,000 theatre building here.

Dallas, Tex.—See "Reinforced Concrete."

Houston, Tex.—Thalian Club will erect club house to cost about $150,000. Address Pres. of Club, Elks Home, Congress Ave. and Main St.

Bremerton, Wash.—Plans being prepared by A. L. Haley, Peoples Bank Bldg., Seattle, for erecting 3-story 58 x 85 ft. brick apartment building for Puget Sound Navy Yard here, to cost $50,000.

Seattle, Wash.—Plans being prepared by Edgar Blair for erecting brick addition to Latona school building, to cost $80,600. R. W. Jones, secy. Bd. Educ.

Spokane, Wash.—Election will be held Mar. 17, for issuing $260,000 bonds for erecting school buildings. Address Bd. Educ.

Portland, Ore.—Plans completed by F. A. Naramore for erecting addition to Hoffman school building, to cost $60,000, and bids will soon be received.

Plans were prepared by Houghtaling & Dougan, Henry Bldg., Portland, for erecting 3-story 68 x 100 ft. Moose Lodge building to be erected on corner of 4th and Taylor Sts., to cost $50,000. Bids will be called for soon. Address Lodge Bldg. Com.

Fresno, Cal.—See "Reinforced Concrete."

El Centro, Cal.—See "Reinforced Concrete."

El Centro, Cal.—Bd. Supervisors have directed Sheriff Applestill to have plans prepared for erecting jail building to cost $50,000.

Los Angeles, Cal.—Plans being prepared by W. C. Pennel, Baker-Detwiler Bldg., Los Angeles, for erecting ice skating rink to cost about $100,000.

Pasadena, Cal.—Plans being prepared by John Parkinson, 420 Title Insurance Bldg., Los Angeles, for erecting 3-story and basement 112 x 80 ft. brick department store building at N. W. corner Marengo Ave. and Colorado St. for T. W. Mather Co., Union St. and Raymond Ave.

Preliminary plans being prepared by Myron Hunt, 1017 Hibernian Bldg., for erecting $250,000 library building in Library Park. Bonds must be voted upon.

Sacramento, Cal.—See "Reinforced Concrete."

San Francisco, Cal.—Plans being prepared by Bliss & Faville, Balboa Bldg., San Francisco, for erecting state building at civic center to cost about $1,000,000.

Douglas, Ariz.—Election will be held Mar. 10 for issuing $98,000 bonds for erecting school building. Address F. T. Wright, trustee.

Tucson, Arix.—Bd. of Trustees of School District No. 1, Pima Co., will erect $100,000 school building. Address Supt. Schools.

Tucson, Ariz.—See "Reinforced Concrete."

Lewiston, Idaho.—Plans being prepared by Cutter & Baum, Spokane, for erecting hotel building here for Lewiston Hotel Co. (R. S. Erb, pres.), to cost $250,000.

BIDS DESIRED

Reading, Mass.—Until Mar. 20 by Jas. A. Wetmore, superv. archt., Treas. Dept., Washington, D. C., for erecting U. S. Post Office building.

Springfield, Mass.—Until about Mar. 15. for plans for erecting brick school building at Forest Park; cost about $75,000 J. H. Bigalow, 318 Main St., Springfield, archt.

Torrington, Conn.—Until Mar. 19 by city for erecting new public school at Church and Prospect Sts. E. Hunt, archt., Torrington.

East Orange, N. J.—Until Apr. 18, by Jas. A. Wetmore, superv. archt., treas. dept., Washington, D. C., for erecting U. S. post office.

Erie, Pa.—Until Mar. 15, by Centennial Anniversary of Battle of Lake Erie, Conn., for erecting building, to be of granite, to commemorate events connected with Commodore Perry; John T. Windrim, Commonwealth Bldg., Philadelphia, archt.

Philadelphia, Pa.—Until Mar. 27, by Dept. Pub. Wks. and Bd. Trustees Free Library, for erecting free library at 19th, Wood and 20th Sts.; separate bids for heating and plumbing; advertised in this issue.

College Park, Md.—Reported desired until Mar. 15, by Dr. Patterson, for erecting 3 story and basement agriculture building for Maryland Agricultural College; cost about $165,000; Flourney & Flourney, 1517 G St., N. W., Washington, D. C., archts.

Charleston. S. C.—Until Mar. 29 by Todd, Simons & Todd, archts., 63 Broad St., Charleston, for erecting 4-story hospital building; separate bids for heating, plumbing, etc.

Greenville, S. C.—Reported desired until Apr. 3, by School Trustees for erecting high school building; cost about $55,000.

Lancaster, S. C.—Until Apr. 11, by Jas. A. Wetmore, superv. archt., treas. dept., Washington, D. C., for erecting U. S. post office building; advertised in this issue.

Augusta, Ga.—Reported desired until Mar. 15, for erecting Masonic Temple. G. Lloyd Preacher, archt., Augusta.

Alexandria, La.—Until Apr. 9, by Jas. A. Wetmore, superv. archt., treas. dept., Washington, D. C., for erecting U. S. post office building.

Churchill, O.—Reported desired until Mar. 19 by William T. Phillips, twp. clk., 143 E. Liberty St., Girard, for erecting town hall here.

Columbia Center, O.—Until Mar. 21 by W. R. Squire, clk. bd. educ., Columbia Station, for erecting school building; separate bids for heating, plumbing. A. C. Bartter, archt., 612 Electric Bldg., Cleveland.

Fremont, O.—Until Apr. 26, by Jas. A. Wetmore, superv. archt., treas dept., Washington, D. C., for erecting U. S. post office.

Lima, O.—Reported desired until Mar. 2, by McLaughlin & Hulsken, archts., 610 Savings Bldg., for erecting 3 story and basement 95 x 250 ft. high school building; cost about $400,000.

Wooster, O.—Reported desired until Apr. 3, by H. H. Miller, clk. bd. educ., for erecting 2 story and basement 62 x 90 grade school building; cost about $50,000; Althouse & Jones, Mansfield, archts.

Greencastle, Ind.—Reported desired until Mar. 19, by C. H. Barnaby, chm. bldg. comn., Depauw University, for erecting administration building; cost about $50,000; R. Frost Daggett, archt., 956 Lercke Annex, Indianapolis.

Michigan City, Ind.—Reported desired until Mar. 19, by G. J. Steigler, 62 Pine St., pres. bd. educ., for erecting 2 story and basement high school building; cost about $50,000; Wilson B. Parker, 205 Board of Trade Bldg., Michigan City, archt.

Detroit, Mich.—Until Mar. 20 by Bd. Educ. (Chas. A. Gadd, bus. mgr.) for erecting McMichael Junior High School building on Ferry Field, Grand River Ave, and W. Grand Blvd., separate bids for heating, plumbing, ventilating, etc., Malcomson and Higgenbotham, archts., 404 Moffat Bldg., Detroit.

Burlington, Wis.—Until Apr. 14, by Jas. A. Wetmore, superv. archt., treas., dept., Washington, D. C., for erecting U. S. post office building here.

Platteville, Wis.—Until Mar. 27, by Joint School Dist. No. 4 (O. E. Gray, secy. bd. educ.), for erecting high school building; separate bids for heating, plumbing and ventilating; Parkinson & Dockendorff, archts., La Crosse.

Charlton, Ia.—Until Apr. 4, by Jas. A. Wetmore, superv. archt., treas. dept., Washington, D. C., for erecting U. S. post office building.

Duluth, Minn.—Reported desired until Mar. 15, for erecting 2 story 100 x 140 shrine temple for A. O. D. Temple. Carl E. Nystrom, 609 Palladio Bldg., archt.

Minneapolis, Minn.—Until about Apr. 1, by Rev. W. B. Riley, First Baptist Cong., 4025 Linden Hills Blvd., for erecting city temple; also for erecting office building for Northwestern Bible and Missionary Training School (Samuel E. Robb, secy.) 6 S. 11th St., also for erecting apartment house at Harmon Pl., near 9th St., total cost about $250,000; Burner & Macomber, 945 McKnight Bldg., Minneapolis, archts.

Winnebago, Minn.—Until Mar. 21, by Independent School Dist. No. 7 (E. F. Arndt, clk.), for erecting high school building; Kirby T. Snyder, archt., 1133 Plymouth Bldg., Minneapolis, archt.

Hastings, Neb.—Reported desired until Mar. 15, by C. W. Way Co., archts., for constructng 3-story and basement 66 x 125 ft. brick and reinforced concrete garage at 1st and Denver Aves., cost about $50,000.

Wahoo, Neb.—Until Apr. 12, by Jas. A. Wetmore, superv. archt. treas. dept., Washington, D. C., for erecting U. S. post office building; advertised in this issue.

Redfield, S. D.—Reported desired until Mar. 16 (extension of time), by S. D. State Bd. Charities and Correction (W. H. King, sec.), for erecting state school and home for feebleminded; cost about $250,000; C. H. Johnston, archt., 715 Capital Bank Bldg., St. Paul.

Lake Andes, S. D.—Reported desired until Apr. 1 for erecting court house; cost about $150,000. Address co. clk., Wheeler.

Cameron, Tex.—Until Apr. 10, by Jas. A. Wetmore, superv. archt., treas. dept., Washington, D. C., for erecting U. S. post office building.

Las Vegas, Nev.—Until Mar. 14, by Clerk Co. Board of Educ., for erecting county high school building; Wilson and Eager, American National Bank Bldg., Monrovia, Cal., archt.

Merced, Cal.—Reported desired until Mar. 17 by W. H. Robinson, secy. bd. school trustees, for erecting high school building. Allison & Allison, Hibernian Bldg., Los Angeles, archts.

PRICES AND LETTINGS

★*Indicates award of contract.*

Boston, Mass.—Following are three lowest bids received Feb. 27, at Schoolhouse Dept., Bd. Educ., for erecting new Sarah Greenwood School Building: Whiton-Haynes Co., 178 Devonshire St., Boston, at $280,000; Joseph Slotnik, Chelsea, at $280,456; Murphy Constr. Co., Boston, at $283,862.

★**Augusta, Ga.**—Contract awarded to Evans Brothers Construction Co., Birmingham, Ala., for erecting Augusta Herald Building, to cost $84,726, for Broad St. structure and Herald mechanical dept.

★**Miami, Fla.**—Following are four lowest bids received Feb. 26th for erecting Y. M. C. A. building here; W. R. Richardson & Co., Jacksonville, at $107,000 (awarded contract); F. W. Long & Co., Jacksonville, at $111,450; E. W. Parker, Tampa, at $112,636; Wolf & Ewing, Miami, $135,000. H. Hastings Mundy, archt.

★**New Orleans, La.**—Contract awarded George J. Glover, Whitney Bldg., for erecting Newcomb College building at cost of $767,000.

★**Dayton, O.**—Contract awarded by Dayton Savings & Trust Co., to Structural Concrete Co., Dayton, for erecting new building to cost about $450,000. Work to begin Apr. 1.

Chicago, Ill.—Low bidder for general construction of 3-story and basement 100 x 125 ft. police station was Butler & Co., 1001 Exchange Bldg., Chicago, at $94,581.

★**Rock Island, Ill.**—Contract awarded by Col. G. W. Burr, commanding officer of Arsenal, to Westinghouse, Church & Kerr Co., 37 Wall St., New York, N. Y., for erecting new artillery ammunition assembling plant; $1,250,000 appropriation made by Congress.

★**Paola, Kan.**—Contract awarded by Bd. of Educ., to F. M. Spencer & Sons., Topeka, for erecting brick high school building to cost $54,000.

★**Omaha, Neb.**—Contract awarded by Bd. Educ. to Peter Kiewit & Son for erecting Field School at 36th and Walnut Sts. at about $69,000.

★**Dillon, Mont.**—Contract awarded Sound Constr. & Engr. Co., 72 Union St., Seattle, for erecting 3-story hotel building here to cost $50,000 for H. E. Andrus. Jesse M. Warren, Bower Bldg., Butte, Mont., archt.

★**Little Rock, Ark.**—Contract awarded by Bd. Educ., to Loftus Collamore, Little Rock, at $112,300 for erecting junior high school building. (Bids opened Feb. 12.)

★**Bartlesville, Okla.**—Following are four lowest bids received by Bd. Educ. for general contract for erecting junior high school building: M. E. Graybill, Bartlesville, at $73,405 (awarded contract); M. O. Thomas, Sedalia, Mo., at $91,122; James Millikin, Springfield, Mo., at $95,678; Campbell & Price, Oklahoma City, Okla., at $97,000; contract for heating and ventilating awarded to Sell-Orr Heating Co., local, at $17,409.

★**Prosser, Wash.**—Contract awarded by Bd. Co. Comrs. to Ferro Concrete Constr. Co., Empire Bldg., Seattle, for erecting courthouse to cost $150,000.

★**Nelson, B. C.**—Contract awarded John Burns & Sons, Nelson, for erecting New Kootenay Lake General Hospital Building at $52,850.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK

Raymond, N. H.—Raymond Electric Co. (F. C. Gardner, mgr.) purchased site and contemplates constructing concrete dam and power house, including installation of 200-hp. water wheel and generator.

Fall River, Mass.—Plans are being considered by the Fall River Electric Co. for extensions to its plant this summer, to include installation of a 6250-kw., general electric turbo-generator, a 66,000-volt, double-circuit, steel-tower transmission line will be erected connecting the steam plant of the company with the transmission lines of the New England Power Co. at East Providence, R. I. A substation will be erected on the Taunton River, which will be equipped with three 5000-kva. transformers. Also considering extension of its lines to Dighton, 10 miles distant.

Erie, Pa.—Bill introduced in Legislature for appropriating $150,000 for improvements and extensions to port here.

Wilmington, Del.—Street and Sewer Dept. contemplates rebuilding the Christiana River banks.

Washington, D. C.—Bill appropriating $45,000,000 for controlling floods on Mississippi River and $5,600,000 for similar work on the Sacramento River, Cal., was passed by both Senate and House of Representatives. Not more than $10,000,000 on Mississippi and $1,000,000 on Sacramento is to be spent annually, to be under the control of the Mississippi River Comn. for the Mississippi work, and the California Debris Comn. for the Sacramento work.

Spottsylvania, Va.—Wakelee, of Fredericks Hall, contemplates constructing hydro power plant on 1100-acre estate; to construct dam about 25 ft. high to form lake covering 70 acres for power purposes.

Charleston, S. C.—Provision for $750,000 dry dock was finally approved as part of naval appropriation bill.

Carterville, Ga.—Reported Georgia Ry. & Power Co. (Henry M. Atkinson, pres., Atlanta), contemplates constructing hydroelectric plant on Etowah River to furnish a distribution of 212,000,000 kw. hours annually.

St. Louis, Mich.—Petition has been presented to the City Council asking that steps be taken to learn the feasibility of acquiring water rights on the river below St. Louis and construction of a dam and power plant to supply additional power for the city.

Kaukauna, Wis.—Municipal Electric and Water Dept. (Wm. B. Montgomery, mgr.) contemplates constructing a hydroelectric plant to develop about 7000 hp. under a 26 ft. head, using vertical generators.

Rochester, Minn.—Plans, it is reported, have been submitted by Hugh L. Cooper, consulting engineer, 101 Park Avenue, New York, N. Y., to the City Council, for the construction of a hydroelectric plant on the Zumbro River; cost about $600,000.

St. Paul, Minn.—J. T. McMillan Co., near High Bridge, St. Paul, has purchased property on the upper levee at $20,000 and contemplate constructing docks.

Chanute, Kan.—Arrangements have been completed by the Kansas Gas & Electric Co. for constructing an electric power plant on the Santa Fe River to have output of 10,000 kw. and will be used as a main generating station for the company's properties in this section. Smaller plants will be used as auxiliaries.

Fallon, Neb.—See "Reinforced Concrete."

Nevada City, Nev.—Pacific Gas & Electric Co., Phoenix, Ariz., contemplates constructing storage dam 200 ft. high for Shady Creek Canyon, for storage of water for power and irrigation purposes.

Tacoma, Wash.—At recent meeting of joint comn. on the Inter-County River Improv. of King and Pierce Counties at Co. Comrs. office, Tacoma, W. J. Roberts, ch. engr. of Inter-County River Improv., outlined plans for improvements during 1917 on Puyallup and Stuck Rivers consisting of 20,000 ft. permanent bank protection, 150,000 ft. triangular mesh reinforcement, 5,000 tons of rock 40,000 ft. second-hand cables, etc., cost $100,000.

Long Beach, Cal.—See "Reinforced Concrete."

Los Angeles, Cal.—County contemplates following work in connection with $4,450,000 bonds recently voted; constructing dams in mountainous areas, protecting banks of smaller streams, together with spreading and storing water for beneficial use, rectification through river training and bank protection of major streams, protection to harbors of Los Angeles and Long Beach; among structures are Pacoima, Wash. a masonry dam curved on radius of 400 ft., 145 ft. high, 478 ft. long on top with storage capacity of 3,200 acre ft., cost $359,460; masonry dam at Devil's Gate 130 ft. high, curved on 400 ft. radius, cost $290,000; San Dimas dam 130 ft. high, on 400 ft. radius to impound 2,500 acre ft., cost $278,000; Pomona dam of earth fill type, 3,300 ft. long maximum height of 41 ft., storage capacity 2,320 ft. Of the total bond issue $60,000 is allotted for constructing check dams in 17 canyons, harbor protection work is to consist chiefly of dikes and levees intended to confine waters to definite channels, bridges to be built where main thorofares cross channels.

Richmond, Cal.—Applications have been filed with Federal authorities by the Belt Line Ry., San Francisco, for permission to construct docks and bulkheads also for dredging at Point San Pablo for deep water shipping to be handled at Point San Pablo wharves; cost $75,000.

San Diego, Cal.—Citizens voted Feb. 21, $682,210 bonds for rebuilding the Lower Otay dam. M. M. O'Shaughnessy, city engr., San Francisco, engaged as consulting engineer for this work and recommends construction of arched gravity cyclopean concrete structure 137 ft. high from stream bed to overflow section and 145 ft. to nonoverflow section, 15 ft. wide at crest, 212 ft. long at spillway crest, having volume of about 86,000 cu. yds. and to form a reservoir having capacity of 15,000,000,000 gallons. Allen H. Wright, city clk.

Bridgeburg, Ont.—Empire Limestone Co., 19 Hudson St., Buffalo, applied to Bridgeburg Council for permission to construct docks at foot of Phipp St., opposite Black Rock on Niagara River.

BIDS DESIRED

Philadelphia, Pa.—Until Mar. 19, by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Washington, D. C., for constructing shipbuilding slips Nos. 2 and 3, at Philadelphia Navy Yard.

Galveston, Tex.—Seawall and breakwater bonds for $32,000, causeway and bridge bond for $19,000, and road bonds for $21,000 will be sold Mar. 19, by John M. Murch., co. aud.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Wateree, S. C.**—Reported contract awarded by Southern Power Co., Charlotte, N. C., to Hardaway Contr. Co., Columbus, Ga., for constructing hydro-electric plant at about $6,000,000.

★**Homan, Ark.**—Reported contract awarded W. M. Rushing, Shreveport, La., for constructing levee at $14,647.

★**Port Arthur, Tex.**—Contract awarded by Franklin Co. Levee Improv. Dist. No. 1, to Henry Cox & Co., Alexandria, La., for constructing a 12 or 15-ft. levee across entire north boundary of the county, to reclaim several thousand acres of bottom land along the Sulphur River.

★**Seattle, Wash.**—Contract awarded by Oregon-Washington R. R. & Navigation Co., to J. A. McEachern Co., Inc., Bell St. Dock, Seattle, at $350,000, for constructing overseas dock 575 ft. with warehouse 500 x 200 ft.

★**San Francisco, Cal.**—Contract awarded to Clinton Constr. Co., 140 Townsend St., at $18,425, for widening pier No. 40 and constructing railroad track on north side. Other bidders: Healy Tibbitts Constr. Co., 9 Main St., $19,620; San Francisco Bridge Co., Hunters Point, $23,760; Hyde-Harjes Co., 110 Market St., $25,730; J. D. Hannah, $28,973. Bidders all of San Francisco.

★Contract for constructing concrete and timber bulkhead wharf adjacent to pier No. 9, awarded to Clinton Constr. Co., at $14,490. Other bidders: Healy Tibbitts Constr. Co., $16,192; J. D. Hannah Co., Great Highway and Balboa Sts., $22,973; San Francisco Bridge Co., $23,385.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK

Belfast, Me.—Dredging of Belfast harbor contemplated by Federal government; cost $35,000. M. L. Slug, pres. Bd. of Trade.

Sea Bright, N. J.—Federal Government contemplates deepening channel between here and Long Branch in the Shrewsbury River. Address Mayor Wooley.

Pennsylvania. — Following applications filed with the Water Supply Comn. Harrisburg:

T. A. Gillespie, ft. of 11th St., Pittsburgh, for permission to dredge sand and gravel in Ohio, Monongahela and Allegheny Rivers.

Carnegie Steel Co., Duquesne, for dredging in front of its Duquesne Steel Works; river pump house intake, along left shore of Monongahela River 13.25 miles above mouth of river, and deposit same in Monongahela River about 11.7 to 12.4 miles from mouth in Duquesne borough.

Dravo Constr. Co., Diamond Bank Bldg., Pittsburgh, to dredge and dump approximately 5,000 cu. yds. excav. from Monongahela River, at Clairton, about 20.5 miles above mouth of river and dump same opposite Glassport, 18 miles above mouth of river.

A. B. Spreekle, for restoring spillway section in dam across Kreitz (Creitz or Kreutz) one mile west of Strickler station on Frederick Div. of Penn. R. R., Hellam Twp.

Hecla Coal & Coke Co., Oliver Bldg., Pittsburgh, to construct a river tipple along Monongahela River 3.5 miles above Lock No. 6, and 72.2 miles above mouth of River at Rice Landing.

Darlington, S. C.—Reported drainage bonds for $50,000 have been voted. Address E. R. Cox, mayor.

Lafayette, La.—Bond issue of $60,000 voted for drainage purposes. Address Pres. Police Jury.

Senatobia, Miss.—Reclaiming of 16,000 acres contemplated; $97,000 available for this work. Address W. W. May.

Alamo, Tenn.—Reported Ferree & McClosky, Memphis, engaged by Middle Forked Deer Drainage Dist. Comrs. to prepare plans for drainage system located in Crockett, Gibson and Dyer counties.

Selmer, Tenn.—Lower Cypress Drainage Dist. No. 10 organized for constructing canal 12 miles long on Cypress Creek three miles west of Selmar, to be 25 ft. wide on top, 15 ft. at bottom and 15 ft. deep. S. J. Dalton, co. surv., Booneville, Miss. H. P. Wood and J. C. Houston, attys.

Redwood Falls, Minn.—County Comrs. contemplate constructing County Ditch No. 24; cost $250,000.

St. Cloud, Minn.—County contemplates filing petitions for widening and dredging Crow River from Sedan in Pope Co. to Lake Koronis in Sterns Co., about 65 miles; cost about $150,000. Nicholas Thomey, aud. Stearns Co.

De Queen, Ark.—Reported law has been passed creating Little River Levee and Drainage Dist. No. 1, consisting of levee 10 miles long and drainage ditch 6 or 7 miles long.

Helena, Ark.—Reported survey of Big Creek-White River Levee & Drain Dist. completed; comprises 234 sq. mi.; includes pumping station, levee, etc., about 150,000 acres in all; Walter E. Winn, engr., Solomon Bldg.; cost, $3,778,500.

Manson, Wash.—Bonds for constructing the newly formed Lake Chelan Irrigation Project will be sold Apr. 21; district will be bonded for $300,000 and $50,000 will be used for improvement and extensions. Thos. O'Shaughnessy, secy. Lake Chelan Irrigation Dist. R. S. Ludington, attorney, Wenatchee, Wash.

Seattle, Wash.—F. W. Allen, Hoge Bldg., Seattle, completed plan for river work in waterway district No. 3, cost $15,000.

Bandon, Ore.—Port of Bandon has plans which have been approved by U. S. Engrs. providing for the maintenance of a 15 ft. channel from mouth of Coquille River to Parkersburg and a 12-ft. channel from that point to Coquille; expenditure $100,000 and $10,000 annually.

California.—Following applications have been filed with the State Water Comn., San Francisco:

U. S. Smelting, Refining & Mining Exploration Co., 582 Market St., San Francisco, for 30 second ft. in Plumas Co., fall of 1,300 ft. will be obtained and 4,300 hp. developed.

Chas. F. Fox, Pomona, 1350 second ft. from streams in Modoc Co., for irrigation; cost $800,000.

La Grange Mining Co., Weaverville, 10 second ft. in Trinity Co. for hydraulic mining.

Southern Pacific Land Co., San Francisco, 2¾ second ft. in Riverside Co., for irrigation, to include submerged concrete dam 400 ft. long and 10 ft. high; cost $26,000.

Natomas Co., Forum Bldg., Sacramento, 50 second ft. from Sacramento River for irrigation, including intake 60 in. steel pipe to sump, 38 in. centrifugal pump 48 in. pipe line 5½ mi. long, and 17 mi. of laterals; cost $120,000.

Chas. L. Austin, Wilbur Springs, ½ second ft. for milling, including pipe line 2½ miles long; cost $6,000.

J. D. Niman, Turlock, 300 second ft. in Mono Co. for irrigation.

Chas. W. Guerin, Pomona, 150,000 acre ft. per annum from tributary of Kern River for irrigation, including pipe line 45 miles long.

Chas. H. Barton, Oak Bar, water in Siskiyou Co., for hydraulic mining, including ditch 3 miles long, cost $5,000.

Chas. E. Knox, 2722 Benvenue Ave., ½ second ft. from spring in Inyo Co., including pipe line 8 miles long cost $2,000.

Redding, city to appropriate 5 second ft. of water from Brandy Creek for municipal purposes; cost $110,000.

Inyo County, for 500 second ft. of water of Owen River at three points, for developing power; Plant 1, hydraulic fill and dam with concrete core wall 520 ft. long at top 130 ft. at bottom, and 150 ft. high, to develop 41,000 hp.; Plants 2 and 3, to develop 34,000 and 15,000 hp. under falls of 829 and 384 ft. respectively, there will be low concrete dams at these plants; cost $7,500,000. Wm. Mulholland, ch. engr., Bd. Pub. Serv. Comn. E. F. Scattergood, electrical engr. for comn. Knickerbocker Bldg., Los Angeles.

BIDS DESIRED

Bridgeport, Conn.—Until Mar. 21, by Bd. Contr. & Supply, for renewing fenders, dredging, etc., at Yellow Mill Bridge; advertised in this issue.

Baltimore, Md.—Until Mar. 14, by Bd. Awards, for dredging in harbor here; H. K. McKay, harbor engr. Certified check of $1,000 to accompany bid.

Wilmington, Del.—Until Apr. 2, by U. S. Engr. Office, Old Federal Bldg., for dredging Leipzig and Little Rivers.

Greenfield, Ind.—Until Mar. 24, by Co. Surv., for constructing Lincoln G. Boden Drain in Green Twp., consisting of about 6000 ft. of tile from 8 to 15 in., also one retaining wall; Chas. Boone Co., engrs., Greenfield.

Elk River, Minn.—Reported desired until Mar. 15, by Arthur Robinson, co. aud., for constructing Judicial Ditch No. 1; work includes about 119,337 cu. yds. dredging, 8 culverts, etc.

Redwood Falls, Minn.—Reported bonds for $500,000 for constructing Co. Ditches 23, 24, 40, 42, and Judicial Ditch Nos. 17, 18 will be sold Mar. 15, by L. P. Larson, co. aud.

St. Ignatius, Mont.—Until Apr. 5, by U. S. Reclamation Service here, for constructing laterals on Flathead Project, involving about 285,000 cu. yd. excavation; work is in two divisions, one located about 25 mi. from Perma, and other about 15 mi. from Dixon, stations of Northern Pacific Ry.

Buckner, Mo.—Until Mar. 14, by C. A. Winfrey, secy. bd. superv., Fort Osage Drain. Dist., for constructing main ditch and 4 laterals; work includes about 363,000 cu. yd. excavation for main ditch and 54,100 cu. yd. for lateral ditches; Clark E. Jacoby Eng. Co., 513 Shukert Bldg., Kansas City.

San Francisco, Cal.—Until Mar. 27 by U. S. Engr. Office, 405 Custom House, for dredging about 35,000 cu. yd. of mud and sand from San Joaquin River near mouth of Stockton Channel.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Newton, N. C.**—Reported contract awarded by Clark's Drainage Dist. No. 1, to Sigmon, Reinhardt & Rutledge, Stanley, N. C., at about $23,000 for constructing 16½ miles drainage ditch. T. L. Bondy, engr., Newton.

Anderson, S. C.—Following are bids opened Feb. 26, by Bd. Drain. Comrs., Six and Twenty Mile Creek Drain Dist., for constructing canal along Six and Twenty-Mile Creek and tributaries: Karr & Moore, Ft. Wayne, Ind., and Salisbury, N. C., $24,820; W. A. Watson, Anderson, S. C., $29,930; A. C. Miller Constr. Co., Memphis, Tenn., $32,095 plus 250 cu. yds. stone; Z. C. Simpson, Anderson, S. C., $1,895 clearing right of way only. W. H. Shearer, supt. of constr.

★**Anoka, Minn.**—Contract awarded by Arthur A. Coswell, co. aud., Feb. 28, for constructing County Ditch No. 58 to Fred Johnson, Cambridge, at $21,700.

St. James, Minn.—Only bid opened Mar. 2 by J. W. Jensen, co. aud., for constructing Judicial Ditch No. 12, was that of Conrad Swanson, Comfrey, at $22,000.

Slayton, Minn.—Following are bids opened Feb. 28, by E. V. O'Brien, co. aud., for constructing Judicial Ditches: Petersen & Jensen, Hadley, $49,949 Judicial Ditch No. 12; Sorrensen & Fowser, Slayton, $46,100, Judicial Ditch 12A; Lewis Sorensen, $39,300, on Judicial 12B; Alfred Telford, Lakefield, $12,302, open work.

Walker, Minn.—Following bid opened Feb. 27, by C. D. Bacon, co. aud., for grading road and constructing ditches; Rood Constr. Co., Grand Rapids, Wis. Contract No. 5, 16 cts., and Contract No. 8, 19 cts. per cu. yd.

Windom, Minn.—Following bid opened Mar. 1, by S. A. Brown, co. aud.: Rude & Wold, Windom, at $74,000 for constructing Co. Ditch No. 10.

TUNNELS AND SUBWAYS

PROPOSED WORK

Elm Grove, Pa.—Contract will soon be let by Penn. R. R. (Alex C. Shand, ch. engr., Philadelphia) for tunnel about 300 ft. long and another 350 ft. long on line of Wheeling Coal R. R., one of tunnel about 5 miles east of here and the other about 8 miles east.

Reading, Pa.—Federated Trade Council has given its indorsement to Chamber of Commerce engrs. plans for eliminating Reading Ry. grade crossings and freight blockades in center of city by tunneling under 8th and Peach Sts. to provide subsurface route to railways main station.

Toronto, Ont.—Construction of subway on Duplex Ave. under the Belt Line Ry. contemplated; cost about $183,800.

BIDS DESIRED

Philadelphia, Pa.—Until Apr. 3, by Wm. S. Twining, dir. dept. city transit, for constructing sections of Broad St. subway; advertised in this issue.

Blue Earth, Minn.—Until about Apr. 1, by Jesse L. Herring, co. aud., for constructing Co. Ditch. No. 15; cost about $90,000.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Cumberland, Md.**—Reported contract awarded Vang Constr. Co., Cumberland, for constructing subway under Baltimore & Ohio RR. tracks at Lynn's Curve.

MISCELLANEOUS

PROPOSED WORK

Transmission Line—Franklin, N. Y.—Delaware & Otsego Light & Power Co. (H. D. Mackey, mgr.) contemplates erecting electric transmission line to Meridale, through the village of Treadwell, a distance of about 14 miles; it may also build a line to Sidney Center, a distance of 5 miles.

Incinerator—South Orange, N. J.—Town contemplates constructing garbage incinerator.

Transmission Line—Lansford, Pa.—Lansford Electric Light Co., contemplates constructing high tension transmission line through town to its new substation.

Coal Tipple—Pennsylvania.—See "Excavation, Drainage and Dredging."

Transmission Line—Bluefield, W. Va.—Appalachian Power Co. contemplates constructing 20 miles of 13,000-volt transmission line at once.

Transmission Line—Wheeling, W. Va.—Wheeling Electric Co. contemplates erecting a 66,000-volt transmission line from Wheeling to Windsor, a distance of 12 miles.

Transmission Line—Burr Oak, Mich.—Franchises have been granted to the United Electric Company of Burr Oak to erect transmission lines through several townships in Calhoun and Branch Counties.

Transmission Line — Maryville, Mo. — Maryville Electric Light & Power Co. (Chas. C. Heimers, mgr.) contemplates erecting electric three-phase, 22,000-volt transmission line to Barnard, a distance of 15 miles.

Fill—Tacoma, Wash.—Thos. N. Norris, co. aud., reports commissioners have indefinitely postponed awarding contract for hydraulic fill on 11th St. because of inability of various parties who are to bear cost of improvement to get together.

Siphons—Waterford, Cal.—See "Reinforced Concrete."

Transmission Line—Deschambault, Que.—Portneuf Hydraulic Co. (Henri Pare, mgr.) contemplates erecting 5 or 10 miles of electric transmission lines next spring.

BIDS DESIRED

New York, N. Y.—Until Mar. 14, by Dr. Haven Emerson, Pres. Bd. Health, for improving certain areas in salt marshlands and meadows located in Queens Boro., also for excavating a ditch or canal within Kissena Park and Flushing in same boro.; security 50 per cent for each item.

Cross Ties—Baltimore, Md.—Until Mar. 14 by Bd. Awards, for 3500 creosoted yellow pine cross ties for constructing Municipal Belt RR. R. M. Cooksey, engr.

Riprap—Memphis, Tenn.—Reported desired until Mar. 19 for 25,000 tons riprap. Address U. S. Engrs. Office, Custom House.

Riprap—Detroit, Mich.—Until Apr. 16, by U. S. Engr. office, for furnishing and placing stone riprap along lake faces of main and south breakwaters at Harbor Beach; advertised in this issue.

Cement—Leavenworth, Kan.—Until Mar. 26, by Supt. Prisons, Dept. of Justice, Washington, D. C., for furnishing and delivering 3000 bbls. Portland cement at U. S. Penitentiary here.

Dragline Excavators, Denver, Colo.—Until Apr. 4, by U. S. Reclamation Service, for furnishing dragline excavators here.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Washington, D. C.**—Following are bids opened Feb. 19, by Bureau Yards & Docks, Navy Dept. (A. V. Parsons, ch.) to Niles-Bement-Pond Co., 111 Broadway, New York City, for one 40-ton and four 10-ton cranes for the navy yards at Philadelphia, Norfolk and Bremerton.

★**Incinerator — Tulsa, Okla.** — Contract awarded by Bd. City Comrs. to United Eng. Co., 237 S. La Salle St., Chicago, at $34,975 for constructing municipal incinerator and garbage disposal plant.

Proposals

For Proposals Advertised See Pages 35, 35a, 35b, 35c, 35d

WATER WORKS AND SEWERAGE SYSTEMS

Bids Close. — See Eng. Record.

Mar. 12. McKeesport, Pa. ..... Feb. 17
Adv. Feb. 17, 24.
Mar. 12. Providence, R. I. ..... Mar. 3
Adv. Feb. 24.
Mar. 12. Cuyahoga Falls, O. ..... Mar. 3
Adv. Mar. 3.
Mar. 12. New London, O. ..... Mar. 3
Adv. Mar. 3, 10.
Mar. 12. New York, N. Y. ..... Mar. 10
Mar. 13. West Torra Twp., Ont. ..... Mar. 3
Mar. 13. Irvington, N. Y. ..... Mar. 3
Adv. Mar. 3.
Mar. 14. Denver, Ia. ..... Mar. 3
Mar. 14. West Berwick, Pa. ..... Feb. 24
Mar. 14. Madison, Ga. ..... Mar. 10
Mar. 14. Baltimore, Md. ..... Mar. 10
Mar. 14. Rochester, N. Y. ..... Mar. 10
Mar. 14. Imperial, Neb. ..... Mar. 10
Mar. 15. Winnipeg, Man. ..... Feb. 10
Adv. Feb. 10 to 24.
Mar. 15. Ogdensburg, N. J. ..... Feb. 24
Adv. Feb. 24 to Mar. 10.
Mar. 15. Grand Forks, N. D. ..... Feb. 24
Mar. 15. Fort Ann, N. Y. ..... Mar. 3
Adv. Mar. 3, 10.
Mar. 15. Wilmington, Ill. ..... Mar. 3
Mar. 15. Tuskegee, Ala. ..... Mar. 10
Mar. 15. Effingham, Ill. ..... Mar. 10
Mar. 15. Fairbury, Neb. ..... Mar. 10
Mar. 15. Vancouver, Wash. ..... Mar. 3
Mar. 15. Ellsworth, Kan. ..... Mar. 10
Mar. 15. Newark, Ohio. ..... Mar. 10
Mar. 16. Island Heights, N. J. ..... Feb. 24
Mar. 19. Leetonia, O. ..... Feb. 24
Adv. Feb. 24, Mar. 3.
Mar. 19. Beaver Dam, Wis. ..... Mar. 10
Mar. 19. Westfield, N. J. ..... Mar. 10
Mar. 20. Johnston, Pa. ..... Mar. 3
Adv. Mar. 3, 10.
Mar. 20. Sioux Falls, S. D. ..... Mar. 10
Mar. 20. Deshler, O. ..... Mar. 10
Mar. 21. Brawley, Cal. ..... Mar. 3
Mar. 21. Lawrence, Kan. ..... Mar. 3
Adv. Mar. 3, 10.
Mar. 21. Eudora, Ark. ..... Mar. 10
Mar. 22. Canton, N. Y. ..... Mar. 3
Adv. Mar. 3, 10.
Mar. 22. Philadelphia, Pa. ..... Mar. 10
Adv. Mar. 10.
Mar. 22. West Minneapolis (Hopkins P. O.), Minn. ..... Mar. 10
Mar. 23. Dadeville, Ala. ..... Mar. 3
Mar. 23. Garfield, N. J. ..... Mar. 10
Adv. Mar. 10.
Granite City, Ill. ..... Mar. 10
Adv. Mar. 10.
Mar. 24. Norwalk, Conn. ..... Mar. 3
Adv. Mar. 3.
Mar. 26. Nedosha, Kan. ..... Mar. 10
Mar. 26. Ann Arbor, Mich. ..... Mar. 10
Adv. Mar. 10.
Mar. 30. Ripon, Wis. ..... Mar. 10
Apr. 1. Gibson, Ill. ..... Dec. 23
Apr. 1. Mt. Vernon, O. ..... Dec. 23
Apr. 1. Hillsboro, Ill. ..... Jan. 27
Apr. 9. Clear Lake, S. D. ..... Mar. 10

STRUCTURAL STEEL WORK

Mar. 13. East Dubuque, Ill. ..... Feb. 24
Mar. 13. Tampa, Fla. ..... Feb. 24
Mar. 13. Westpoint, Neb. ..... Mar. 3
Mar. 13. Buffalo, N. Y. ..... Mar. 10
Mar. 13. West Point, Neb. ..... Mar. 10
Mar. 14. Charleston, W. Va. ..... Feb. 17
Adv. Feb. 17, Mar. 3, 10.
Mar. 14. Barbourville, Ky. ..... Mar. 3
Adv. Mar. 3.
Mar. 14. Washington, D. C. ..... Mar. 10
Mar. 15. Detroit, Mich. ..... Feb. 10
Adv. Feb. 10 to 24 and Mar. 10.
Mar. 15. Clifton, Ariz. ..... Feb. 24
Mar. 15. Rhinelander, Wis. ..... Mar. 10
Mar. 19. Franklin, Ohio. ..... Mar. 10
Mar. 20. Blair, Neb. ..... Mar. 10
Mar. 20. Windsor, Ont. ..... Mar. 10
Mar. 27. Fort Riley, Kan. ..... Mar. 3
Adv. Mar. 3, 10.
Apr. 3. Britton, N. D. ..... Mar. 10

REINFORCED CONCRETE

Mar. 13. Westfield, N. J. ..... Mar. 3
Mar. 13. Sioux City, Iowa ..... Mar. 10
Mar. 14. Seattle, Wash. ..... Mar. 3
Mar. 15. Owatonna, Minn. ..... Feb. 17
Mar. 15. Washington, Ia. ..... Mar. 10
Mar. 15. New York, N. Y. ..... Mar. 10
Mar. 20. Geneva, N. Y. ..... Feb. 17
Adv. Feb. 17, 24 and Mar. 10.
Mar. 20. Ft. Wayne, Ind. ..... Mar. 3
Mar. 24. Sidney, O. ..... Mar. 10
Mar. 24. Longport, N. J. ..... Mar. 10
Adv. Mar. 10.

Close. Bids — Record. See Eng.

Mar. 26. Hazard, Ky. ..... Feb. 10
Mar. 31. Forrest City, Ark. ..... Mar. 10
Adv. Mar. 10.

ROADS AND PAVING

Mar. 13. Atlantic Highlands, N. J. ..... Mar. 3
Adv. Mar. 3, 10.
Mar. 13. Clinton, Ia. ..... Mar. 3
Mar. 13. New Brighton, S. I., N. Y. ..... Mar. 10
Mar. 13. Lynchburg, Va. ..... Mar. 10
Mar. 13. Pogosa Springs, Colo. ..... Mar. 10
Mar. 14. Fargo, N. D. ..... Mar. 10
Mar. 14. Barbourville, Ky. ..... Mar. 3
Adv. Mar. 3.
Mar. 14. Passaic, N. J. ..... Mar. 10
Mar. 14. Brooklyn, N. Y. ..... Mar. 10
Mar. 14. Cincinnati, O. ..... Mar. 10
Mar. 14. Appleton, Wis. ..... Mar. 10
Mar. 14. Kansas City, Mo. ..... Mar. 10
Mar. 14. Rochelle Park, N. J. ..... Mar. 10
Mar. 14. Minneapolis, Minn. ..... Mar. 10
Mar. 15. Cadiz, O. ..... Jan. 27
Mar. 15. Morgantown, W. Va. ..... Feb. 24
Mar. 15. Pomeroy, Wash. ..... Feb. 24
Mar. 15. Elmira, N. Y. ..... Mar. 3
Adv. Mar. 3, 10.
Mar. 15. Burlington, Ia. ..... Mar. 10
Mar. 15. Cincinnati, O. ..... Mar. 10
Mar. 15. New York, N. Y. ..... Mar. 10
Mar. 15. Brooklyn, N. Y. ..... Mar. 10
Mar. 15. Ann Arbor, Mich. ..... Mar. 10
Mar. 15. Primghar, Ia. ..... Mar. 10
Mar. 15. Seal Beach, Cal. ..... Mar. 10
Mar. 16. Rocky Mount, N. C. ..... Feb. 24
Mar. 16. Erwin, Tenn. ..... Feb. 24
Mar. 16. New Castle, Pa. ..... Mar. 3
Mar. 16. Marion, O. ..... Mar. 10
Mar. 16. St. Louis, Mo. ..... Mar. 10
Mar. 16. Philadelphia, Pa. ..... Mar. 10
Mar. 17. Milwaukee, Wis. ..... Mar. 3
Mar. 17. Tacoma, Wash. ..... Mar. 10
Mar. 17. Racine, Wis. ..... Mar. 10
Mar. 18. Kent, O. ..... Dec. 30
Mar. 19. Albany, N. Y. ..... Mar. 3
Adv. Mar. 3, 10.
Mar. 19. Marshall, Mich. ..... Mar. 3
Mar. 19. Everett, Wash. ..... Mar. 10
Mar. 19. Westfield, N. J. ..... Mar. 10
Mar. 20. Olive Hull, Ky. ..... Feb. 10
Mar. 20. South Orange, N. J. ..... Mar. 3
Mar. 20. Fresno, Cal. ..... Mar. 10
Mar. 20. Palatka, Fla. ..... Mar. 10
Mar. 21. Cleveland, Ohio ..... Mar. 10
Mar. 22. Ebensburg, Pa. ..... Mar. 10
Mar. 22. Roanoke, Va. ..... Mar. 10
Mar. 23. Jamestown, Ky. ..... Feb. 10
Mar. 23. Sioux Falls, S. D. ..... Mar. 10
Mar. 24. Wayland, Ky. ..... Feb. 10
Mar. 24. Hyden, Ky. ..... Feb. 10
Mar. 24. Maplewood, N. J. ..... Mar. 10
Mar. 24. Racine, Wis. ..... Mar. 20
Mar. 24. Jacksonville, Fla. ..... Mar. 10
Mar. 25. Albion, Ind. ..... Mar. 3
Mar. 26. Los Angeles, Cal. ..... Mar. 3
Mar. 26. Panama City, Fla. ..... Mar. 10
Mar. 26. Plymouth, Wis. ..... Mar. 10
Mar. 26. Everett, Wash. ..... Mar. 10
Mar. 27. Nogales, Ariz. ..... Mar. 3
Mar. 27. Easton, Md. ..... Mar. 10
Mar. 27. Nutley, N. J. ..... Mar. 10
Mar. 28. Columbus, O. ..... Mar. 10
Mar. 29. Pennsboro, W. Va. ..... Feb. 17
Mar. 29. Belleville, N. J. ..... Mar. 10
Adv. Mar. 10.
Mar. 30. Canton, Ill. ..... Jan. 20
Mar. 30. Naperville, Ill. ..... Jan. 27
Mar. 30. New Eagle, Pa. ..... Mar. 10
Apr. 1. Virginia, Ill. ..... Jan. 13
Apr. 1. East Rochester, N. Y. ..... Feb. 17
Apr. 2. Fayetteville, W. Va. ..... Mar. 10
Adv. Mar. 10.
Apr. 3. Brooksville, Ky. ..... Mar. 10
Apr. 3. Madisonville, Wis. ..... Jan. 27

RAILROADS

Mar. 14. San Francisco, Cal. ..... Mar. 10

INDUSTRIAL PLANTS AND WAREHOUSES

Mar. 13. Jasper, Ind. ..... Mar. 10
Mar. 15. Buffalo, N. Y. ..... Feb. 17
Adv. Feb. 17, Mar. 3 and 10.
Mar. 15. Shreveport, La. ..... Feb. 24
Mar. 24. Enderlin, N. D. ..... Mar. 10

BUILDINGS
Public and Private

Mar. 13. Hiawatha, Kan. ..... Feb. 3
Mar. 14. Plainview, Ark. ..... Feb. 17
Mar. 14. Crosby, N. D. ..... Feb. 24
Mar. 14. Bridgeport, Conn. ..... Mar. 3
Adv. Mar. 3.
Mar. 14. Las Vegas, Nev. ..... Mar. 10
Mar. 15. Atkins, Ark. ..... Feb. 17
Mar. 15. Omaha, Neb. ..... Feb. 17
Mar. 15. Marion, Ky. ..... Feb. 17
Mar. 15. San Pedro, Cal. ..... Mar. 3
Mar. 15. Augusta, Ga. ..... Mar. 10
Mar. 15. Erie, Pa. ..... Mar. 10
Mar. 15. Hastings, Neb. ..... Mar. 10
Mar. 15. Springfield, Mass. ..... Mar. 10

Bids Close. — See Eng. Record.

Mar. 15. Duluth, Minn. ..... Mar. 10
Mar. 15. College Park, Md. ..... Mar. 10
Mar. 16. Redfield, S. D. ..... Mar. 10
Mar. 17. Merced, Cal. ..... Mar. 10
Mar. 18. Pulaski, Va. ..... Feb. 3
Mar. 18. Jacksonville, Fla. ..... Mar. 3
Mar. 19. Johnstown, Pa. ..... Mar. 3
Mar. 19. Churchill, O. ..... Mar. 10
Mar. 19. Torrington, Conn. ..... Mar. 10
Mar. 19. Michigan City, Ind. ..... Mar. 10
Mar. 19. Greencastle, Ind. ..... Mar. 10
Mar. 20. Albany, N. Y. ..... Mar. 3
Mar. 20. Detroit, Mich. ..... Mar. 10
Mar. 20. Tropica, Cal. ..... Mar. 3
Mar. 20. Detroit, Mich. ..... Mar. 10
Mar. 21. New York, N. Y. ..... Mar. 3
Mar. 21. Martins Ferry, O. ..... Feb. 17
Adv. Feb. 17, 24.
Mar. 21. Columbus Center, O. ..... Mar. 10
Mar. 21. Winnebago, Minn. ..... Mar. 10
Mar. 23. Holley Springs, Miss. ..... Feb. 24
Mar. 27. Philadelphia, Pa. ..... Mar. 10
Adv. Mar. 10.
Mar. 27. Lima, Ohio. ..... Mar. 10
Mar. 27. Platesville, Wis. ..... Mar. 10
Mar. 29. Coshocton, O. ..... Feb. 24
Mar. 29. Charleston, S. C. ..... Mar. 10
Mar. 30. Reading, Mass. ..... Mar. 10
Apr. 1. Lakes Andes, S. D. ..... Mar. 10
Apr. 3. Greenville, S. C. ..... Mar. 10
Apr. 3. Wooster, Ohio. ..... Mar. 10
Apr. 4. Chariton, Ia. ..... Mar. 10
Apr. 9. Alexandria, La. ..... Mar. 10
Apr. 10. Sullivan, Ind. ..... Feb. 24
Apr. 10. Cameron, Tex. ..... Mar. 10
Apr. 11. Lancaster, S. C. ..... Mar. 10
Adv. Mar. 10.
Apr. 12. Wahoo, Neb. ..... Mar. 10
Adv. Mar. 10.
Apr. 14. Burlington, Wis. ..... Mar. 10
Apr. 18. East Orange, N. J. ..... Mar. 10
Apr. 26. Fremont, Ohio. ..... Mar. 10
May 1. Minneapolis, Minn. ..... Nov. 25

FOUNDATIONS, PIERS AND DAMS

Mar. 12. Ludington Harbor, Mich. ..... Mar. 3
Adv. Feb. 17, Mar. 3, 10.
Mar. 13. Atlantic Highlands, N. J. ..... Mar. 3
Adv. Mar. 3, 10.
Mar. 15. Pensacola, Fla. ..... Feb. 10
Mar. 15. Philadelphia, Pa. ..... Mar. 3
Adv. Mar. 3, 10.
Mar. 17. Longport, N. J. ..... Mar. 3
Mar. 19. Philadelphia, Pa. ..... Mar. 10
Mar. 20. Newark, N. J. ..... Mar. 10

TUNNELS AND SUBWAYS

Mar. 26. Los Angeles, Cal. ..... Feb. 24
Apr. 3. Philadelphia, Pa. ..... Mar. 10
Adv. Mar. 10.

EXCAVATION, DREDGING AND DRAINAGE

Mar. 13. Newport, R. I. ..... Feb. 17
Adv. Feb. 17, Mar. 3 and 10.
Mar. 14. Baltimore, Md. ..... Mar. 10
Mar. 14. New York, N. Y. ..... Mar. 10
Mar. 14. Buckner, Mo. ..... Mar. 10
Mar. 15. Ft. Laramie, Wyo. ..... Feb. 17
Adv. Feb. 17
Mar. 15. Neodesha, Kan. ..... Jan. 27
Mar. 15. Cedar Rapids, Ia. ..... Jan. 27
Adv. Feb. 10
Mar. 15. Powell, Wyo. ..... Feb. 17
Mar. 19. Wilmington, Del. ..... Feb. 24
Adv. Feb. 24 to Mar. 10.
Mar. 15. Elk River, Minn. ..... Mar. 10
Mar. 19. Duluth, Minn. ..... Mar. 3
Mar. 19. Benson, Minn. ..... Mar. 3
Mar. 20. Vallejo, Cal. ..... Feb. 10
Mar. 21. Bridgeport, Conn. ..... Mar. 10
Adv. Mar. 10.
Mar. 22. Morganfield, Ky. ..... Mar. 3
Adv. Mar. 3, 10.
Mar. 23. Hartford, Conn. ..... Feb. 24
Mar. 24. Greenfield, Ind. ..... Mar. 10
Mar. 26. Mason City, Ia. ..... Mar. 3
Mar. 27. San Francisco, Cal. ..... Mar. 10
Mar. 28. New York, N. Y. ..... Mar. 3
Adv. Mar. 3, 10.
Mar. 28. Columbia City, Ind. ..... Mar. 3
Mar. 29. Great Falls, Mont. ..... Mar. 3
Adv. Mar. 3.
Apr. 2. Wilmington, Del. ..... Mar. 10
Apr. 5. St. Ignatius, Mont. ..... Mar. 10
——— New York, N. Y. ..... Feb. 17
Adv. Feb. 17.

MISCELLANEOUS

Mar. 14. Dredge, Madison, S. D. ..... Feb. 17
Adv. Feb. 17, 24.
Mar. 14. Cross Ties, Baltimore, Md. ..... Mar. 10
Mar. 16. Hydraulic Lift, Philadelphia, Pa. ..... Feb. 10
Adv. Feb. 10, 17
Mar. 19. Riprap, Memphis, Tenn. ..... Mar. 10
Mar. 26. Cement—Leavenworth, Kan. ..... Mar. 10
Apr. 4. Excavators—Denver, Col. ..... Mar. 10
Apr. 16. Riprap, Detroit, Mich. ..... Mar. 10
Adv. Mar. 10.

SEARCHLIGHT SECTION

Bids open March 15, 1917.

PIER CONSTRUCTION, PILE DRIVING AND CANAL DREDGING

DEPARTMENT OF WHARVES, DOCKS AND FERRIES,
550 BOURSE BUILDING,
PHILADELPHIA, PA.

Sealed Proposals, endorsed "Bids for Items Bid For," will be received until 12 o'clock noon, Thursday, March 15, 1917, in the office of the Director of the Department of Wharves, Docks and Ferries, 550 Bourse Building, Philadelphia, and then publicly opened.

Schedule "A"—For pier construction, with appurtenant work in the Delaware River, near the foot of Kenilworth Street.

Schedule "B"—For driving test piles in the Delaware River at Penn Treaty Pier.

Schedule "C"—For dredging a canal at the foot of Venange Street, Delaware River.

Plans, specifications and blank forms upon which bids must be made for Schedule "A," can be obtained at the office above mentioned upon the deposit of a certified check to the order of the City of Philadelphia—amount $25—to cover cost of making blue prints, etc., which check will be returned to the bidder upon the receipt of plans and specifications in good condition and unmarked. Plans and specifications are on file in the New York office of the Engineering Record. The successful bidder will be furnished with all necessary blue prints free of charge.

Plans, specifications and blank forms upon which bids must be made for Schedules "B" and "C" can be obtained at the above-mentioned office free of charge.

No bid will be considered unless accompanied by a certificate from the City Solicitor of the City of Philadelphia, to the effect that the provisions of an ordinance requiring proposal bonds on all bids exceeding in amount $500, approved May 25, 1860, have been complied with.

The Director reserves to himself the right to reject any or all bids as he may deem best for the interest of the City of Philadelphia.

GEORGE S. WEBSTER,
Director.

February 23, 1917.

Bids open March 19 and 20, 1917.

NOTICE TO CONTRACTORS

BITUMINOUS MATERIALS FOR HIGHWAY IMPROVEMENTS

ALBANY, N. Y.

State of New York, Office of the State Commission of Highways, Albany, N. Y.—Pursuant to the provisions of Chapter 30, Laws of 1909, as amended by Chapter 646, Laws of 1911, and Chapter 80, Laws of 1913, sealed proposals will be received by the undersigned for furnishing and delivering bituminous materials, f. o. b. cars at destination, for use by the State Highway Department in the maintenance and repair of improved state and county highways in all of the counties of the state, unless otherwise specified, at the office of the State Commission of Highways, 55 Lancaster Street, Albany, N. Y., at one o'clock p. m., on Monday, the 19th day of March, 1917, for the following contracts:

B. M. Contract No. 1—Bituminous Material A Binder
B. M. Contract No. 2—Bituminous Material A L. C. O.

Official Proposals

Price, $2.40 an inch—Copy can be received until Wednesday, 5 p. m. for issue mailed the next day

B. M. Contract No. 3—Bituminous Material T Binder and Hot Application
B. M. Contract No. 4—Bituminous Material T Cold Application in tank cars
B. M. Contract No. 5—Bituminous Material Cold Patch Asphaltic Emulsion in Divisions Nos. 1, 2 and 4.

Sealed proposals will also be received by the undersigned at their office, No. 55 Lancaster Street, Albany, N. Y., on Tuesday, the 20th day of March, 1917, for the following contracts:

B. M. Contract No. 6—Bituminous Material A L. H. O.
B. M. Contract No. 7—Bituminous Material T Cold Application in barrels.
B. M. Contract No. 8—Bituminous Material Cold Patch Asphaltic Emulsion in Divisions Nos. 3, 5, 6, 7, 8 and 9.

All proposals except contracts Nos. 5 and 8 will be for furnishing the specified material at any railroad delivery point within the state. Proposals for contracts Nos. 5 and 8 will be for furnishing the specified material at any railroad point within the counties comprising the divisions named in the proposal.

Tables showing approximate quantities and railroad delivery point, specifications and proposals may be obtained at the office of the State Commission of Highways at Albany, N. Y..

Each proposal must be accompanied by cash or a certified check payable to the order of the State Commission of Highways for an amount equal to at least five per centum of the amount of the proposal which such cash or check accompanies. This cash or check will be held by the Commission until the contract is executed and the bond is filed.

The successful bidder on each proposal will be required to give a bond for 50 per centum of the amount of the contract, such bond to be executed by a surety company to be approved by the Commission. The bond is for the purpose of insuring the delivering of the bituminous material as called for by the Commission.

The right is reserved to reject any or all bids.

EDWIN DUFFEY,
Commissioner.

I. J. MORRIS,
Secretary.

Bids open April 2, 1917.

PERMANENT ROAD CONSTRUCTION

FAYETTE COUNTY, WEST VIRGINIA.
FAYETTEVILLE, W. VA.

Sealed proposals will be received at the office of the Clerk of the County Court, Fayetteville, W. Va., until 2 P. M., April 2, 1917, for the improvement of the James River and Kanawha Turnpike in Sewell Mountain District of Fayette County. This work will be let in two sections one beginning at a point on said Turnpike at the Greenbrier County line and extending in a generally northwesterly direction along the line of said Turnpike 7.8 miles to the intersection of the Corliss Road; the other extending from the intersection of the Corliss Road to the Nuttall District line, a distance of 6.4 miles.

Bids will be received for Bituminous Macadam (penetration), Portland Cement Concrete, Asphaltic Concrete and other approved types of pavement.

Plans, profiles, estimates, et cetera, are on file in the office of T. F. Maloy, District Road Engineer, Landisburg, W. Va., from whom printed forms for bids, together with specifications and other data, may be secured upon application. Bids must be submitted on the prescribed printed form. Specifications and plans are also on file in the office of the Clerk of the County Court, Fayetteville, West Virginia, *but not available for distribution.*

A cash deposit of five dollars will be required for a set of plans and specifications for each section, the same to be refunded if bid is filed and the plans and specifications returned in good condition within thirty days from date of letting.

Proposals must be filed in the office of the Clerk of the County Court, Fayetteville, W. Va., addressed to the County Court of Fayette County, and marked "Proposal for improvement of the James River and Kanawha Turnpike." All work will be paid for in cash. A certified check for five (5%) per cent of the proposal, made payable to the order of the Sheriff of Fayette County, shall be filed with each bid. The Court reserves the right to reject any or all bids.

T. F. MALOY,
District Road Engineer.

By order of the County Court of Fayette County, W. Va.

R. J. STEGALL, Clerk.
PHILIP KONRAD, President.
February 19, 1917.

Bids open March 13, 1917.

CONSTRUCTING BULKHEADS EXCAVATING BOAT BASIN AND GRADING PARK

ATLANTIC HIGHLANDS, N. J.

The Mayor and Council of the Borough of Atlantic Highlands, N. J., will receive and open bids at 8 o'clock P. M., on March 13, 1917, at the Council Room, Mount Avenue, for constructing bulkheads, excavating boat basin, grading park, etc., according to plans and specifications prepared by Herbert O. Todd, Borough Engineer.

Plans and specifications may be obtained from the Borough Clerk upon a deposit of $5, which will be refunded when plans are returned in good condition.

Certified check for $500 must accompany all bids.

The Mayor and Council reserve the right to reject any and all bids.

WM. L. WELLS,
Borough Clerk.

Bids open March 13, 1917.

ROAD OIL WANTED

ATLANTIC HIGHLANDS, N. J.

The Mayor and Council of the Borough of Atlantic Highlands, N. J., will receive bids on Tuesday, March 13, 1917, at 8 o'clock, P. M., at the Council Chamber, Mount Avenue, for furnishing one carload of road oil (containing 3000 gallons). Sample and specifications of same to accompany bid.

The right is reserved to reject any and all bids.

WM. L. WELLS,
Borough Clerk.

General Railway Strike Is Again Threatened

Employees of Railroads Take Action Likely to Result in Disastrous Consequences to Entire Country

IF THE STRIKE which the union employees of the railways of the country have ordered to begin to-day materializes, construction work and engineering activities of all sorts will come to an abrupt stop, and there will be much difficulty in resuming operations after the strike is settled, as well as undoubted financial loss in connection with work under way. The consequences would be so serious, however, in paralyzing all industry and in cutting off all food supply from by far the larger part of the population that it is not believed that the general public or the federal government will allow a complete stoppage of traffic to continue. Even if, however, the railroads should be taken over by the federal government and operated under martial law, the first efforts would be directed toward a resumption of the necessary distribution of food supplies. It may be taken for granted that everything would be in confusion, and that it would be some time before industry could resume on a normal basis. Of course, the last class of shippers to be considered would be those supplying materials for new construction work, and if the strike actually occurs engineers and contractors may expect serious and extended interference with their activities. Merely the damage resulting from such interruption of subway construction in New York City would mount into large figures, and the total loss from a stoppage of work all over the country would be enormous. Fortunately for contractors, the larger share of this loss might be expected to fall on owners of the properties under construction.

Buildings

Work noted in this issue includes the following items:

	Kind	Cost
Bids Opened:		
Birmingham Ala.	Post office	$673,000
Proposed Work:		
Boston, Mass.	Office building	450,000
Newark, N. J.	Factory	400,000
Somers Point, N. J.	Hotel	500,000
McAfee, N. J.	Steel plant	500,000
Philadelphia, Pa.	Public library	3,000,000
Philadelphia, Pa.	Theatre	750,000
Indianapolis, Ind.	Warehouse	300,000
Bloomington, Ind.	College buildings	350,000
Oklahoma City, Okla.	City hall	300,000
Minneapolis, Minn.	Sanatorium	300,000
San Francisco, Cal.	Hospital	600,000

Roads and Paving

Road and paving construction noted in this issue includes the following items:

	Kind	Cost
Contracts Awarded:		
Sussex, N. J.	Highway	$109,000
Waterloo, Iowa	Asphalt	195,000
Bids Desired:		
Kewanee, Ill.	Paving	113,000
Centerville, Tenn.	Road grading	200,000
Proposed Work:		
Far Rockaway, L. I.	Boulevard	480,000
Fairmont, W. Va.	Bonds voted	650,000
Mountain City, Tenn.	Bonds voted	200,000
Minneapolis, Minn.	Paving	312,000

Waterworks and Sewers

No important waterworks projects are noted in this issue. Proposed sewer construction includes the following items:

	Kind	Cost
Long Island City, N. Y.	Drainage system	$2,000,000
Cheltenham, Pa.	Sewer system	625,000
Nashville, Tenn.	Sewer system	1,000,000
Barberton, Ohio	Sewer system	250,000
Spokane, Wash.	Trunk sewer	200,000

Miscellaneous Headings

A contract for dredging in the Hudson River at New York City has been awarded at $358,000. The lowest bid received for constructing the steel superstructure of a bridge in Chicago was $485,000, the substructures to cost $239,000 additional. The construction of a large concrete arch bridge over the James River at Richmond, Va., has been contracted for at about $500,000. Bids are desired at Rosedale, Kan., for drainage work involving a 1200-ft. tunnel to cost $500,000. It is reported that the construction of a $12,500,000 water terminal at Bayonne, N. J., is contemplated. A hydroelectric development proposed near Oroville, Cal., would cost $6,000,000. A railroad bridge to cost $750,000 is proposed at Oakland, Cal.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Where name of official is not given inquiries should be addressed to City Clerk, County Clerk or corresponding official.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK

Boston, Mass.—Council passed Mayor J. M. Curley's $1,000,000 loan order, which will be used as follows: $600,000 for regular sewerage system and $400,000 for expansion of Charles River basin drainage area project.

Gloucester, Mass.—City authorized $2,000 for 6-in. c. i. pipe for extending water mains and $10,000 for pipe drainage system. John A. Stoddart, mayor.

West Springfield, Mass.—Town will lay about 5000 ft. of 18-in. sewer and 1½ miles of water mains. John J. Lysaght, secy. bd. selectmen.

Bayonne, N. J.—City Engr. preparing estimates of cost for construction of 30 to 42-in. pipe line from North Arlington to Bayonne, about 8 miles.

Hackensack, N. J.—City considering construction of southern half of proposed sewer system; cost $300,000.

East Orange, N. J.—City Council has tendered an offer to Bd. of Wks., Newark, of $700,000 for rights for municipality in Passaic Valley trunk sewer.

Jersey City, N. J.—City Comn., formulating plans for construction of new pipe line for water system from Jersey City to source of supply at Boonton; cost about $1,000,000.

Phillipsburg, N. J.—State Bd. of Health approved plans for construction of sewage disposal plant. Address Mayor.

Point Pleasant, N. J.—Pub. Utility Comn. has instructed Point Pleasant Waterworks Co. to install meters before June 1 in apartment houses, manufacturing establishments, etc., where a great abundance of water is used.

Westfield, N. J.—Common Council will hold meeting April 2 to take up question of constructing sewers in Chestnut St. and Stanley Ave. Walter S. Clark interested.

Ambridge, Pa.—Reported plans completed and contracts will soon be let for 100,000-gal. reservoir, pipe extensions, etc.; cost about $45,000. C. Earl Steel, city clk.

Cheltenham, Pa.—Township will hold election on question of issuing $625,000 bonds to be used for sewer system; surveys completed. Address Bd. Superv.

Dallastown, Pa.—Borough will vote Mar. 29 on question of issuing $39,600 bonds to be used for waterworks.

Johnstown, Pa.—Election will probably be held next fall on question of issuing $2,000,000 bonds for sanitary sewer system, disposal plant and constructing bridges.

Juniata, Pa.—Boro. considering sewage disposal improvements. Harvey Linton, boro. engr., Altoona.

Nazareth, Pa.—Blue Mountain Consolidated Water Co., Nazareth, which operates at Pen Argyle, Wind Gap and Nazareth, repotred to have decided to construct a 300,000,000-gal. reservoir.

Philadelphia, Pa.—According to report of Carleton E. Davis, ch. water bureau, $500,000 will be spent before summer by City in extendnig water system.

Philadelphia, Pa.—City will lay sewers on Allman, Dover, Fairhill and 15 other streets and Olney Ave.

Reading, Pa.—City considering question of constructing combination sewage and garbage disposal plant. E. Ulrich, city engr.

Roaring Springs, Pa.—City Council considering waterworks improvements. J. W. Curfman, secy.

South Connellsville, Pa.—Boro. voted $22,000 bond issue to be used for sewer and street improvements.

Baltimore, Md.—Reports state that it will be necessary for Park Bd. to expend $25,000 for new water pipe line if constructed.

Martinsburg, W. Va.—City considering construction of storm sewer. E. D. Bromley, city engr.

Weston, W. Va.—Reported Weston Insane Asylum has $45,000 appropriation and is considering installation of sewage purification plant.

Cochran, Ga.—City will hold election Mar. 27 on question of issuing $15,000 bonds for installing sewer system. J. C. Urquhart, mayor.

Davisboro, Ga.—Reported city engaged W. M. Crook, Grand Bldg., Macon, to prepare plans for waterworks, sewer and light systems; cost about $25,000.

Hamilton, Ga.—City considering construction of waterworks. J. R. Lunsford, city clk.

Nashville, Tenn.—A bill has been introduced in State Senate providing for an issue of $1,000,000 bonds for trunk and lateral sewers.

Lancaster, Ky.—City considering extension to waterworks; also auxiliary pumping station. H. J. Tinsley, city engr.

Akron, O.—City considering installing two 350-hp. boilers, eight 2,000,000-gal. filters, 4 miles 48-in. c. i. pipe line and one 10,000-gal. pump during 1917, also improvements to garbage plant, including new crusher. C. F. Beck, dir. serv.

Barberton, O.—Bonds for $250,000 voted, to be used for a complete sewer system.

Bellevue, O.—City considering construction of reservoir. Fred H. Robertson, city aud.

Canton, O.—Election May 8 by city to vote on issuing $104,000 bonds for intercepting sewer on east side and $106,000 for west side.

Celina, O.—Contract will soon be let for about 6000 ft. 6-in. water main extensions. A. W. Fishbungh, city engr.

Marietta, O.—Reported to be a movement on foot looking to construction of reservoir to cost $75,000.

Plymouth, O.—See "Reinforced Concrete."

Ft. Wayne, Ind.—Bd. Pub. Wks. adopted resolutions for construction of sewers, east of Holton Ave., south of Eckart St., west of Anthony Blvd., north of Hartman Ave., produced west to Drexel Blvd., distance about 5 miles.

Cambridge, Ill.—Contracts will soon be let for construction of a sanitary sewer system; cost $47,000. H. G. Stokes, engr., Kewanee.

Pontiac, Mich.—City will spend about $250,000 on waterworks extensions. Wm. J. Fisher, city engr.

St. Louis, Mich.—Reported city will hold election in April on question of issuing $25,000 bonds to be used for waterworks improvements.

Crystal Lake, Ill.—Plans being prepared for sanitary sewerage system. J. C. Flotow, city clk.

Fairbury, Ill.—City considering construction of storm sewer to cost $7,000; also pumping station and install new boilers this spring; cost $7,500.

Hillsboro, Ill.—Contracts will be let about July 1 for construction of 3 miles of sanitary sewers 8 to 10 in.; also 48 brick manholes. Warren Eng'g. Co., Decatur.

La Salle, Ill.—Election Mar. 20 on question of issuing $150,000 bonds for waterworks improvements. Martin Kurkowski, city clk.

Minneapolis, Minn.—City considering constructing trunk line sewers during 1917, to cost $281,000 and lateral sewers $206,000.

St. Paul, Minn.—City Council approved plans for constructing sewers in following streets: Juliet, Hyacinth, Bellows, Baker, and State Sts., Berkeley, Cleveland, Stanford, Wellesley, Jefferson, Cretin and Fillmore Aves.

Lawrence, Kan.—Water bonds for $250,000 will be sold Mar. 21 by city clk.

McPherson, Kan.—Reported plans being prepared for waterworks and light system; cost $20,000. Black & Veatch, engrs., 507 Interstate Bldg, Kansas City, Mo.

Tipton, Kan.—Reported Geo. R. Taylor, Stockton, has been engaged to survey and prepare plans for waterworks. A. Burch, mayor.

Indianola, Neb.—City will vote Apr. 3 on question of issuing $24,000 bonds to be used for waterworks. G. C. Hill, city clk.

Seward, Neb.—City considering 2-mile extension to its present sewer system; also laying about 6000 ft. of water mains and installing new pump and additional wells.

Unadilla, Neb.—Village will vote Apr. 3 on question of issuing $10,000 bonds to be used for waterworks. Frank Lowe, village clk.

Fargo, N. D.—Reported 12 blocks of 6 to 12-in. c. i. water mains will be laid; cost about $17,000. A. R. Watkins, co. aud.

Miles City, Mont.—City will lay water mains across Tongue River; also 4 mi. of drain sewers under consideration. G. C. Pruett, city engr.

Cheyenne, Wyo.—Election will be held Apr. 10 on question of issuing $65,000 bonds for 10,916 ft. 24 x 60-in. reinforced concrete storm sewer. E. W. Glafcke, city engr.

Kahoka, Mo.—Reported city considering a bond issue to be used for waterworks improvements. L. R. Sherrill, supt.

Lathrop, Mo.—Reported city planning waterworks. E. E. Harper, engr., 2408 E. 30th St., Kansas City.

Plattsburg, Mo.—Reported election will soon be held by the city on question of issuing $30,000 bonds to be used for sewer construction.

University City, Mo.—City considering sewer improvements. W. A. Heimbeucher, city engr.

Bellville, Tex.—City considering construction of waterworks. J. S. Fenner, city engr.

Cooper, Tex.—Plans prepared by Henry E. Elrod, Interurban Bldg., Dallas, for installing waterworks and sewer system to cost $76,000.

Slaton, Tex.—Election will soon be held on question of issuing bonds for waterworks construction.

Taylor, Tex.—City has retained Henry E. Elrod, Interurban Bldg., Dallas, to appraise the privately owned sewer system for purchase and to prepare plans for improvements thereto.

Frederick, Okla.—Reported city will vote Mar. 20 on question of issuing $75,000 bonds to be used for purchase and improvements to water and light plant.

Cheney, Wash.—Reported contracts will soon be let for extensions to waterworks; $10,000 bonds recently sold for this work.

Spokane, Wash.—Council will have plans prepared by Morton Macartney, city engr., for sewer system to drain business section. Plans provide for reinforced concrete pipe 5½ ft. in diameter; cost $200,000.

Waitsburg, Wash.—City Council will condemn water rights along Coppei Creek for the purpose of conducting a water system from Coppei springs, a distance of 8 miles.

Portland, Ore.—Bonds for $75,000 for water system will be sold Mar. 22. A. L. Barbour, city aud.

Roseburg, Ore.—J. C. Alexander, here, who recently closed a deal for furnishing all water for the Southern Pacific Co., will install a pumping system capable of furnishing 750,000 gal. per day. Surplus water will be used for ice plant and irrigation.

Coalinga, Cal.—City Council voted to drill wells for water supply, construct steel tank with tower 100 ft. high and new distributing system if Pleasant Valley Water Co.'s system cannot be purchased at appraised price; bonds for $100,000 voted for this work. Floyd G. Dessery, 514 Central Bldg., Los Angeles.

Pasadena, Cal.—Samuel B. Morris, ch. engr., waterworks, estimates cost of laying mains on Colorado St., Orange Grove, Rafael Ave. and La Loma Rd. to supply water to San Rafael Heights at $26,209.

Sacramento, Cal.—City will probably hold election to vote $1,228,000 bonds for constructing filtration plant.

San Luis Obispo, Cal.—Election Apr. 2 to vote on $31,000 bond issue; $21,000 for purchase of sewer farm, $10,000 for additions to sewer system.

Douglas, Ariz.—Election will be held Apr. 17 to vote $166,000 bonds to be used for sewer system extension.

Levis, Que.—City will hold election in April on question of constructing 1,500,000-gal. capacity reservoir and a centrifugal pump with electric motor on one side and steam-driven turbine on the other side; cost $75,000. C. C. Lessard, city engr., 147 Cote de la Montagne, Quebec.

Verdun, Que.—A. S. Clarson, engr., Montreal, writes underground conduits will be laid; cost about $200,000.

Aurora, Ont.—James Louden & Hertzberg, engrs., Excelsior Life Bldg., Toronto, are preparing plans for sewer system, including low level pumping plant, disposal works and collecting system to cost $90,000.

London, Ont.—City considering construction of 10 miles of sewers during 1917. H. A. Brazier, city engr.

Pembroke, Ont.—Town considering installation of centrifugal sewage pumps. W. J. Moore, town engr.

BIDS DESIRED

New York, N. Y.—Until Mar. 23 by Marcus M. Marks, boro. pres., for constructing sewers and appurtenances in portions of 1st Ave. and outlet sewers in portion of 96th and 102d Sts.; work includes about 2255 lin. ft. of circular brick, together with vitr. pipe sewer, receiving basins, etc.; security $60,000; also for alterations and improvement of sewers in portions of 12th St.; security $16,000.

Until Mar 21 by William Williams, comr. water supply, gas and electricity, for laying water mains and appurtenances in 5th. 6th Aves. and E. 38th St.; security $8,000.

Paterson, N. J.—Until Mar. 20 by Bd. Pub. Wks. for constructing sewers in portions of E. 5th, E. 25th, Franklin and other streets. H. J. Harder, city engr.

Stone Harbor, N. J.—Until Mar. 26 by Leo F. McCraven, boro. clk. (separate bids for constructing sewage disposal plant), for laying sewer and water mains, hydrants and gate valves.

Monaca, Pa.—Until May 1 by Boro. for constructing two 1,000,000-gal. motor-driven centrifugal pumps in a concrete pit 50 ft. deep for proposed new pumping plant, and 1,000,000-gal. reinforced concrete reservoir; cost about $25,000. Michael Baker, boro. engr., Beaver.

Philadelphia, Pa.—Until Mar. 22 by Dept. Pub. Wks. (George E. Datesman, dir.) for Sch. "A," main sewer for Cobbs Creek intercepting sewer, also in 69th, Everett, Knorr Sts., and many other streets.

New Orleans, La.—Until Mar. 26 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Washington, D. C., for constructing reinforced concrete cesspool and pump chamber; also for 2 motor-driven centrifugal pumps, piping, valves, etc., for naval station here.

Rocky River, O.—Until Apr. 1 by S. W. Wenban, mayor, for 37,000 ft. of 10 to 24-in. vitr. sanitary sewer pipe; cost about $90,000. E. H. Arnold, village engr. R. Winthrop Pratt, cons. engr., Hippodrome Bldg., Cleveland.

Kewanee, Ill.—See "Roads and Paving."

St. Charles, Ill.—Until Mar. 26 by P. Hempstead, city clk., for constructing sewer and waterworks extensions, including 7250 ft. of from 4 to 10-in. sanitary sewer. John W. Wilson, engr.; advertised in this issue.

Mauston, Wis.—Until Apr. 13 by Carl Blass, city clk., for constructing concrete reservoir, 25 ft. in diam. by 25 ft. deep also foundations to pumping station and pumps, laying of 1820 ft. of 24-in. vitr. pipe sewer (pipe furnished by city); also catch basins, manholes, etc. W. G. Kirchoffer, engr., Madison, Wis.

Hampton, Ia.—Reported desired until Mar. 27 for Franklin-Hardin Drain No. 5, 24,600 ft. of 6 to 30-in. tile, cost about $28,000. George Mack, Court House, engr.

Wilton Junction, Ia.—Until Mar. 26 by town, for constructing sanitary sewerage system and sewage disposal plant advertised in this issue. David G. Fisher & Co., engrs., Davenport.

St. Paul, Minn.—Until Mar. 26, by H. W. Austin, city purch. agt., City Hall, for constructing sewers in Doswell, Pascal and Asbury Aves.

Murray, Kan.—Reported desired until Mar. 29 by city for improving waterworks system, including pumps, power house, etc. X. A. Kramer, engr., Magnolia, Miss.

Scottsbluff, Neb.—Until Apr. 3 by M. O. Sohus, city clk., for constructing waterworks extensions; advertised in this issue.

Big Sandy, Mont.—Until Apr. 2, by Hans H. Lehfeldt, town clk., for constructing water mains in Special Improvement Dist. No. 1, including gate valves, specials, hydrants, etc. Miracle Eng. Co., 437 Ford Block, Great Falls, Mont.

Covina, Cal.—Until Apr. 3 by D. S. Stafford, city clk., for furnishing and installing chlorination plant to treat 1,500,000 gal. of water per 24 hours; also plant to treat 50,000 gal. per 24 hours.

Astoria, Ore.—Until Apr. 13 by G. W. Lounsberry, clk. Astoria Water Comn., for lining with concrete tunnel 1200 ft. long; also for constructing high service distribution system; work includes clearing and grubbing, excavating and back filling trenches; also 11,136 ft. of 6 to 18-in. c. i. pipe, together with manholes, etc. Lars Bergsvik, engr. of comn.

PRICES AND LETTINGS

★Indicates award of contract.

Providence, R. I.—Following bids opened by Bd. Contract and Supply for 8,000,000 gal. caacity water pump for Hope station: Power Equipment Co., $22,824; F. H. Hayes Machinery Co., $11,032; F. A. Mazzur & Co., $9,830; Shumaker Santry Co., $10,180. Bidders all of Boston, Mass.

New York, N. Y.—Following bids opened Mar. 6 by Bd. Water Supply for furnishing and delivering liquid chlorine at Kensico Screen chamber, Catskill Aqueduct: Electric Bleaching Gas Co., 18 E. 41st St., New York, 11.75 cts. per lb.; Arnold Hoffman & Co., Inc., Providence, R. I., 12.3 cts. per lb. P. C. Barney, asst. engr. bd. water supply.

★Hawthorne, N. J.—Contract awarded (bids opened Mar. 2) for construction and equipment of pumping station, small reservoir and pipe line connections to Watson-Flagg Eng. Co., 120 Liberty St., New York City, at $31,759.

★Akron, O.—Contract awarded (bids opened Mar. 5) for erecting 2 water tube boilers, including superheaters and smoke connections to Babcock & Wilcox, 1406 New England Bldg., Cleveland, at $18,800. G. G. Dixon, engr., bd. pub. serv.

★Middletown, O.—Contract awarded by city for extending and improving waterworks to L. Eid Concrete Steel Co., 1206 W. Liberty St., Cincinnati, at about $19,300.

★Atlanta, Ga.—Contract awarded by city for sewer material to Meeks Contr. Co., Silbey Bldg., Atlanta, at $18,267.

Dundee, Mich.—Following are 3 lowest bids opened by city Mar. 6 for construction of waterworks: T. C. Brooks & Son Co., Jackson, Mich., $42,792; P. W. Breisach, Waterville, O., $43,165; Ray D. Baker, Penobscot Bldg., Detroit, $46,014. Geo. Champe, engr., 610 Nasby Bldg., Toledo, O.

★Sheboygan, Wis.—Contracts reported awarded for waterworks to Hallett & Kuehn, Aurora, Ill., at $27,892 and for sewer system at $34,049.

★Alton, Ia.—Contract awarded by city for sewage disposal plant to Ward & Weighton, Sioux City, at $7,550, and outfall and collection sewer to V. L. Peterson, Des Moines, at $14,807.

★Big Sandy, Mont.—Contract reported awarded for constructing waterworks to Two-Miracle Concrete Corp., Great Falls, at $30,040.

★Sklatook, Okla.—Contract awarded (bids opened Mar. 6) for waterworks improvements to R. J. Edwards, 821 State Bank Bldg., Oklahoma, at $20,000. W. M. Calvin, town clk.

★St. John, Wash.—Mayor R. B. Gains reports contract awarded for waterworks to C. H. Green Co., 517 Lincoln St., Spokane, at about $10,000.

★Emmett, Idaho.—Contract awarded for construction of disposal plant (bids opened Feb. 21) to C. H. Helmer, Twin Falls, at $16,973; other bidders, Morrison & Knudson Co., Boise, $18,342; Idaho Hardware & Plumbing Co., Boise, $18,765. J. W. Knowles, city engr.

★Emmett, Idaho.—Contract reported awarded to Chas. H. Palmer, Twin Falls, for sewer system at $16,976.

REINFORCED CONCRETE

PROPOSED WORK

Providence, R. I.—State Bd. Pub. Roads (I. W. Patterson, ch. engr., State House, Providence) intends constructing new 3 arch concrete bridge over Pawtuxet River on Providence-Cranston boundary.

Rhode Island.—Contracts will be awarded in May by State Highway Dept. (Clarence L. Hussey, bridge engr., Room 12, State House, Providence) to construct concrete bridge on wood pile foundations with 3 arches, two 40-ft. and one 42-ft. span, 53 ft. wide and 150-lb. per sq. ft. capacity, over Pawtuxet River on Warwick-Cranston boundary; estimated cost $30,000. Other bridges on which bids will be asked are Wickford, Hamilton, Narrow River, Oakland and New Shokeham bridges. Address I. W. Patterson, C.E., State House, Providence.

Bennington, N. Y.—Black Cat Textile Co. plans erecting 350 x 80-ft., 5-story concrete mill in Scott St. in spring.

Whitney Point, N. Y.—Union Electric Co. (D. O'Connell, pres. and mgr.) contemplates constructing concrete dam in July and changing its system from 133 to 60 cycles.

Long Branch, N. J.—New York & Long Branch RR. (Lee W. Berry, supt., Long Branch) contemplates replacing wooden trestles over Shark River with steel and concrete structure; estimated cost $200,000.

Plainfield, N. J.—Niles-Bement-Pond Co. will erect 75 x 288-ft. reinforced concrete addition to present plant. Bids for foundation were received.

Pennsylvania. — State Water Supply Comn. approved applications for proposed construction of following reinforced concrete bridges:

Reading, Berks Co., over Willow Creek, ¼ mile south of Berkeley Station on road to Temple, Ontelaunee Twp.; over Swamp Creek, 1 mile north of New Berlinville, on road to Bechtelsville, Colebrookdale Twp.

Butler, Butler Co., with stone abutments, over Thorn Creek, at Jefferson Center; over Rudert Run, 1 mile from Saxonburg, both in Jeffeson Twp.

Winnfield, La.—Police Jury plans erecting Court House of concrete, tile and brick, to cost $75,000.

New Philadelphia, O.—County intends constructing concrete bridge over Beaverdam Creek in Beaver Ave., this place, and another over Little Stillwater Creek in Dennison. R. H. Nussdorfer, co. aud.

Plymouth, O.—Reported contracts will soon be let for 500,000-gal. capacity per day reinforced concrete filtration plant; cost $10,000. E. K. Traugher, city clk.

Effingham, Ill.—Contracts will be awarded by county this spring to construct 100-ft. concrete bridge; estimated cost $15,000; and laying concrete pavement, estimated cost $10,000. G. T. Austin, co. supt. highways.

Owatonna, Minn.—Plans have been approved by City Council for proposed $25,000 reinforced concrete bridge with two 65-ft. spans over Straight River at Bridge St.

Nicolaus, Cal.—Citizens have asked Bd. Superv. Yuba City, to construct reinforced concrete bridge across Feather River by direct tax; cost $150,00.

Orland, Cal.—A. O. Burch, project engr. for U. S. Reclamation Serv., estimates cost of lining with concrete main canals and laterals of system of Orland Project at $22,000.

Halifax, N. S.—Plans being prepared by Nova Motor Co., Granville St. (F. H. Mahar, mgr.) for erecting reinforced concrete garage building to cost $100,000. Work will begin in spring.

BIDS DESIRED

Reading, Pa.—Until Mar. 29 by Cyrus J. Rhode, co. controller, for constructing reinforced concrete bridge over Swamp Creek in Colebrookdale Twp., 126 ft. long and 22.8 ft. wide; also for constructing bridge over Willow Creek, in Ontlaunee Twp., length 97 ft., and width 23 ft.

Washington, D. C.—Until Apr. 6 by Secy. Bd. Comrs., District Bldg., for constructing concrete bridge in line of 16th St., N. W., crossing Military Road; advertised in this issue.

Lansing, Mich.—Until Apr. 17 by Frank F. Rogers, state highway comr., Lansing, for constructing reinforced concrete trunk line bridges in Sect. 17, Ann Arbor Township; advertised in this issue.

Princeton, Ill.—Reported desired until Mar. 21 by State Highway Dept., Springfield, for constructing three reinforced concrete bridges; specifications may be obtained from Co. Supt. Highways, 603 S. Main St., Princeton.

Junction City, Kan.—Reported desired until Mar. 27 by Capt. F. J. Herman, Q. M. Corps, for constructing reinforced concrete bridge 280 ft. long, 16 ft. roadway, abutment sand piers, with wood block paving; bids on steel or reinforced concrete.

Lawrence, Kan.—Reported desired until Mar. 24, by George C. Brune, co. clk., for constructing reinforced concrete abutments for Brown Grove Bridge.

Kansas City, Mo.—Mar. 28 by Bd. Park Comrs. (T. C. Harrington, secy.) for constructing reinforced concrete retaining walls; also for readjusting corner of Grand Ave. Viaduct.

Pine Bluff, Ark.—Until Apr. 7 by H. B. Strange, secy. school bd., for erecting reinforced concrete high school building Mitchel Selligman, archt., 203 Citizens Bank Bldg., Pine Bluff.

PRICES AND LETTINGS

★Indicates award of contract.

★East Buffalo, N. Y.—Reported contract awarded by Lehigh Valley RR. to Westinghouse Church Kerr & Co., 37 Wall St., New York, for erecting reinforced concrete engine house here, 15-stall addition to engine house at Tifft Farm, including machine shops, powerhouse, etc.

★Harrison, N. J.—Contract awarded by Peter Hauck & Co. to James J. Dunn, 289 Maple Ave., Kearny, for erecting 2-story, 43 x 110-ft. reinforced concrete addition to brewery on 5th St., at $60,000.

Boston, Mass.—Following are 4 lowest bids opened Feb. 26 by Metropolitan Park Comn. (John R. Rablin, engr.), 18 Tremont St., Boston, to construct concrete bridge with steel draw over Neponset River, between here and Quincy: (a) H. P. Converse & Co., Boston, $410,734; (b) Holbrook, Cabot & Rollins Corp., Boston, $422,946; (c) Geo. T. Randle Co., East Boston, $430,868; (d) T. Stuart & Son Co., Newton, Mass., $431,530.

	(a)	(b)	(c)	(d)
30,000 cu. yd. excav. or dredging	$0.63	$0.50	$0.35	$0.55
70,000 lin. ft. spruce piles	0.32	0.27	0.23	0.28
111,000 ft. b. m. lumber	92.20	70.00	76.00	70.00
5,000 cu. yd. gravel ballast	1.55	1.90	1.90	2.00
2,000 stone ballast	1.49	2.00	3.00	1.90
2 caissons	6,717.00	9,150.00	6,791.00	5,500.00
3,100 cu. yd. stone masonry	21.00	20.75	26.90	22.00
3,160 sq. yd. wood block pavement	3.00	3.15	3.60	3.00
1,270 lin. ft. galv. iron fence	4.14	4.25	4.29	4.00
3,200 cu. yd. concrete masonry	7.82	9.00	8.93	8.00
Steel superstructure of Scherzer rolling lift drawbridge	74,932.00	94,000.00	77,858.00	96,000.00
Removal of old bridge	4,597.00	1,500.00	3,957.00	3,000.00
Constructing temporary bridge	59,243.00	57,850.00	54,055.00	58,000.00
Fender and guard piers (oak piles)	20,619.00	.....	25,844.00	25,500.00
Fender and guard piers (long leaf yellow pine)	.....	26,800.00	23,090.00	.....
Reinforced concrete superstructure of bridge	70,783.00	70,000.00	79,000.00	72,000.00

Trenton, N. J.—Following are 4 lowest bids opened March 7 by city (Leon D. Hirsch city clk.) to construct concrete and timber bulkhead on Delaware River near Ferry St.: (a) Louis J. Sieling, 171 Madison Ave., New York City, at $69,570; (b) Robert W. Smith, Corp., 30 Church St., New York City, $76,388; (c) T. L. Eyre, Commercial Trust Bldg., Philadelphia, Pa., $77,974; (d) H. S. Kerbaugh, inc., 6 Church St., New York City, $79,079. John W. Thompson, engr., Trenton, N. J.

	(a)	(b)	(c)	(d)
39,500 lin. ft. bearing piles	$0.42	$0.32	$0.38	$0.52
4,800 lin. ft. spur piles	0.45	0.50	0.40	0.65
1,100 lin. ft. fender piles	0.40	0.48	0.40	0.50
126,000 ft. b. m. sheet piles	60.00	83.00	60.00	50.00
137,000 ft. b. m. timber	68.00	78.00	65.00	62.00
135,000 ft. b. m. decking	50.00	78.00	63.00	48.00
22,500 ft. b. m. fenders	70.00	70.00	85.00	85.00
2,600 cu. yd. concrete	6.00	7.00	8.70	7.60
23 units bollards	80.00	25.00	65.00	74.00
7,300 lin. ft. round logs	0.30	0.32	0.45	0.50
840 ton stone	1.10	1.00	1.70	1.30
50 units test piles	16.00	15.00	16.50	20.00
200 units pile shoes	0.50	1.50	3.00	2.10
17 units 6-in. drains	25.00	10.00	18.00	12.25
55,000 lb. iron	0.06	0.08	0.0575	0.07

★**Hoboken, N. J.**—Contract awarded Turner Constr. Co., 11 B'way, New York, for erecting 5-story reinforced concrete building on Willow Ave. for Hoboken Land & Improvement Co.

Salem, N. J.—All bids opened Feb. 9 by Bd. Freeholders to construct Penn's Neck concrete bridge with steel draw over Salem river, on Salem and Pennville road, this place, rejected; lowest total bid for concrete work being $47,883; for steel draw, $42,160. H. B. Keasby, co. engr.

★**Philadelphia, Pa.**—Contract awarded by Hess-Bright Mfg. Co. to Harrison C. Rea Co., 1027 Wood St., Philadelphia, for erecting 2-story, 100 x 218-ft., reinforced concrete-brick addition to plant at Front and Erie Sts.

★**Richmond, Va.**—Contract awarded Feb. 27 by Richmond, Fredericksburg & Potomac RR. (W. T. Bryant, road foreman engr., Richmond, Va.), Atlantic Coast Line RR. (M. E. Nelson, bridge engr., Wilmington, N. C.), and city (Chas. E. Bolling, city engr.) to W. W. Boxley, Roanoke, Va., at about $500,000, to construct double-track concrete arch bridge over James River, replacing present Belt Line bridge; this is part of $3,300,000 improvements proposed by these two railroads in and around city. J. E. Greiner, engr., Fidelity Bldg., Baltimore, Md.

Asheville, N. C.—Lowest bids opened Mar. 3 by Co. Comrs. to reconstruct Alexander, Smith's, Pearson's and Long Shoals bridges with concrete were from Luten Bridge Co., Knoxville, Tenn., as follows: Smith's, $23,944; Pearson's, $17,647; Alexander, $11,545; Long Shoals, $8,800; with $11 per cu. yd. for extra concrete in all bridges, but offering a 2 per cent discount if more than 2 bridges were awarded them. T. M. Howerton, co. engr.

Charleston, S. C.—Only bid opened March 1 for constructing 1000 ft. reinforced concrete retaining wall was that of Bryan & Co., Jacksonville, Fla., at $41,480, including reinforced concrete dam. J. H. Dingle, city engr.

★**Ft. Atkinson, Wis.**—Following bids were opened March 3 by Bd. Pub. Wks. to construct 286 ft. reinforced concrete bridge over Rock River, this place: N. M. Stark & Co., Des Moines, Ia., at $44,888 (awarded contract); C. J. Moritz, West Allis, Wis., $53,948; Jos. Ubink, Port Washington, Wis., $59,800; Stein Constr. Co., Medford, Wis., $61,400. E. B. Parsons, engr., Jefferson, Wis.

★**Toledo, Ia.**—Contract awarded by county (bids opened Feb. 20) to A. C. Tackman, Clarksville, Ia., at $6,561, to construct pony truss bridge with concrete abutments on piling; to A. P. Munsen, Marion, Ia., at $30,200, to construct seven I-beam and one slab bridges, 2 pony trusses and 11 concrete culverts. A. R. Hebenstreit, co. engr.

★**Wayne, Neb.**—Contract awarded by county to Norfolk Bridge & Constr. Co., Norfolk, Neb., for concrete work, and to Standard Bridge Co., Omaha, Neb., for steel work in bridges for which bids were opened Feb. 12. Chas. W. Reynolds, co. clk.

★**Kansas City, Mo.**—Contract awarded Feb. 24 by Bd. Pub. Wks. to Bert L. Elmer, local, at $11,965, to construct reinforced concrete bridge over Brush Creek at Woodland Ave.; one-third of cost being borne by Kansas City Rys. Co.

★**Portland, Ore.**—Contract awarded Feb. 28 by Dept. Pub. Wks. (Geo. Edmonstone, engr.) to Pearson Constr. Co., Times Sq., Seattle, Wash., at $507,000, to construct 8 reinforced concrete viaducts on East Side and lower tracks of Oregon-Washington RR. & Navigation Co. (R. L. Huntley, ch. engr., 15th and Dodge Sts., Omaha, Neb.).

STRUCTURAL STEEL WORK

PROPOSED WORK

Watertown, N. Y.—Estimated cost of new double-deck bridge over New York Central RR. (Boynton Voorhees, engr., Grand Central Terminal Bldg., New York City) tracks and Black River in Court St., for which bonds have been voted and construction of which is being considered by Pub. Service Comn. (Seymour Van Santvoord, chmn., and A. H. Sudermeister, engr., Albany), city (E. W. Sayles, city engr., and Wm. Mueser, engr., Park Row Bldg., New York City), and railroads, placed at $250,000.

Cranford, N. J.—County intends constructing new bridge on Eastburn St.; estimated cost $16,000; also replacing with new ones, bridges at Netherwood and Norwood Aves. Jacob L. Bauer, co. engr., Elizabeth.

Nutley, N. J.—Bd. Freeholders, Newark, intends repairing bridge over Passaic River here; estimated cost $10,000. Fred Reimer, co. engr., Newark.

Trenton, N. J.—Bd. Freeholders intends replacing condemned Willow St. bridge over Sanhican Creek with new $12,000 structure. Frank McCullough, clk.

Johnstown, Pa.—See "Waterworks and Sewers."

Kensington, Pa.—Westmoreland and Allegheny Cos. (Greensberg and Pittsburgh, respective co. seats) intend constructing new bridge here; estimated cost, $108,500. Geo. W. Deeds, member, co. comrs., Pittsburgh.

Lexington, Ky.—Surveys being made by Co. Road Dept. (R. W. Davis, road engr.) to construct steel bridge over Kentucky River at Clay's Ferry.

Cincinnati, O.—City will hold election to vote bonds for proposed construction of wagon way approach to Cincinnati Southern bridge over Ohio River; estimated cost $200,000. City of Ludlow will bear expense to construct approach to this bridge on Kentucky side. Address Chas. E. Tudor, councilman.

Lisbon, O.—County intends constructing bridge on Lincoln highway, in Hanover twp., at estimated cost of $10,000. Address Co. Surv. Armstrong.

Rocky River, O.—Included in proposed scheme, estimated to cost $3,000,000, of Fowler-Worman-Kelley Co. (H. A. Worman, vice-pres.), Cleveland, to convert this place into a model village, Charles W. Hopkinson, archt., Rose Bldg., Cleveland, is preparing plans for 70-ft. span bridge with 4 tracks over Nickel Plate RR. at north end of Blount St., leading into Oakwood entrance of property.

Hartford City, Ind.—County intends awarding contracts in April for reconstructing 5 bridges, largest of which is over Lick Creek south of Barr school, which will probably have new abutments and new floor. L. L. Forkner, co. road supt.

Indianapolis, Ind.—Contracts will soon be awarded by county to construct new bridge over Fall Creek at North Senate Ave., approaches of which will be constructed by city; estimated cost, $100,000.

Joplin, Ind.—Election will probably be held Apr. 3 to vote for constructing viaduct on E. 7th St. and to consider other improvements. J. B. Hodgdon, comr. sts.

Mason City, Ia.—Contracts will soon be awarded by county (Geo. E. Frost, co. aud.) to construct 12 bridges. R. E. Robertson, co. engr.

Austin, Minn.—County will spend about $200,000 for constructing about 202 new bridges, including many of concrete; bonds recently voted.

Austin, Tex.—In conjunction with construction of proposed road from here to Houston, for which subscriptions have been promised in towns of Hempstead and Chappell Hill, a toll bridge will be erected. Address Co. Clk., Hempstead.

Muskogeem, Okla.—W. H. Smith, frt. trf. mgr. Weber Falls RR. Co., reports all bids opened for constructing bridge to cost $75,000 and 14 mi. new line to cost $200,000 have been withdrawn. New bids to be received.

New Castle, Okla.—Surveys being made for proposed bridge over Canadian River, here. Address Co. Clk., Oklahoma City.

Tulsa, Okla.—City will hold election to vote $200,000 bonds for proposed improvement of West Tulsa, including construction of approaches and repairs to Frisco viaduct.

Yacolt, Wash.—Clark and Cowlitz Counties (Vancouver and Kalama, respective co. seats) intend constructing $14,000 bridge over Lewis River, near here.

Oakland, Cal.—County (Perry Haviland, surv.) and Southern Pacific Ry. (J. D. Isaac, ch. engr., 165 B'way, New York City) intend constructing $750,000 bascule bridge over waterway between here and Alameda. Address Joseph Kelly, superv.

Princeton, Cal.—Plans being prepared to construct $226,000 bascule bridge here. Address Co. Clk., Colusa.

Rio Vista, Cal.—War Dept. (Col. Thomas H. Rees, engr.), San Francisco, received plans for proposed bridge over Sacramento River, this place, for which bids will probably be asked in May. Address Co. Clk., Fairfield.

San Pedro, Cal.—Plans being prepared by S. A. Jubb, asst. engr., Harbor Comrs., Los Angeles, to construct drawbridge, about 135 ft. long, over West Basin Channel of harbor; estimated cost $40,000.

BIDS DESIRED

White Plains, N. Y.—Until Mar. 26 by Harvey B. Green, clk. bd. superv., for constructing two steel girder and reinforced concrete bridges over two branches of Annsville Creek on the Albany Post Road at Cortlandt.

Somerville, N. J.—Until Mar. 27 by Bd. Freeholders for constructing 2 high culvert I-beam bridges, one over Stony Brook and other over Rock Brook. J. Dougherty, Jr., co. engr., 22 Elm St., Somerville.

Brookville, Ky.—Until Apr. 3 by Co. Clk., for constructing steel bridge to be known as Locust Creek Bridge; work includes about 3080 lb. reinforcing steel, 28,240 lb. structural steel to be used in superstructural work, and about 137.4 cu. yd. concrete, etc. Chas. D. Sand, bridge engr.

Somerset, Ky.—Until Mar. 27 for constructing two steel bridges across Pitman Creek, one 100-ft. and two 80-ft. spans, on Monticello Road; also 80-ft. steel span on Mt. Vernon Road. C. M. Langdon, co. clk. W. C. Gundiff, road engr., Somerset.

Blue Island, Ill.—Until Mar. 22, by Sanitary Dist. of Chicago (John McGillen, clk.), 910 S. Michigan Ave., for furnishing, fabricating, delivering about 1,227 tons of steel for superstructures for bridges to be located here.

Wausau, Wis.—Reported desired until Mar. 20 by E. D. Clapp, highway comr., for constructing Cherokee Bridge, to have 100-ft. span, two 18-ft. approaches. 135 cu. yd. concrete and 85,390 lb. steel. F. F. Mengel Wood Co., engrs., Bank Bldg., Grand Rapids, Wis.

Erie, Kan.—Reported desired until Mar. 21 by W. E. Craig, co. clk., for constructing two 50-ft., one 45-ft. and three 20-ft. bridges, and repairs to three bridges.

Sisseston, S. D.—Reported desired until Apr. 3 by R. C. Richert, co. aud., for constructing bridges and culverts during 1917.

Eureka, Ark.—See "Roads and Paving."

Everett, Wash.—Reported desired until Mar. 26, by Mae Weatherbee, co. aud., for constructing trestle; cost about $10,000.

St. Ferdinand, Halifax.—Reported desired until Mar. 25, by L. J. Sircis, secy.-treas. Halifax-South, for constructing 2 highway bridges with steel superstructures and concrete abutments, approaches, etc., on Fortier and Pidgeon Rivers, in Mogantic Co.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**New York.**—Contract awarded on Mar. 2 by State Dept. Pub. Wks. to Michael Fitzgerald, Hoosick Falls, N. Y., at $39,634, to construct Schuylerville bridge, and to Chesley, Earl & Heimbach, Inc., Buffalo, at $67,053, to construct Ilion bridge.

★**Cape May C. H., N. J.**—Contract awarded by Bd. Freeholders (bids opened Dec. 5) to Champion & Powell, Ocean City, N. J., at $127,393, to construct bridge over Corson's Inlet on Ocean City—Corson's Inlet Boule.

★**Fayette City, Pa.**—Contract awarded by West Penn Power Co. (F. Uhlenhaut, Jr., ch. engr., Pittsburgh), and Western Maryland Ry. (H. R. Pratt, ch. engr., Baltimore, Md.) to A. L. Anderson & Co., 6617 Frankstown Ave., Pittsburgh, Pa., at $65,000, to construct steel viaduct, between 900 and 1000 ft. long, with concrete piers (75-ft. clearance) over Pennsylvania RR., Baltimore & Ohio RR. and Western Maryland RR. tracks.

★**Philadelphia, Pa.**—Contract awarded by Philadelphia & Reading RR. (Sam. T. Wagner, ch. engr., Reading Terminal Bldg., Philadelphia, Pa.) to Seaboard Constr. Co., Witherspoon Bldg., for grading and masonry; to L. F. Shoemaker & Co., Harrison Bldg., for structural steel; to James Kelly, Bulletin Bldg., for waterproofing required in construction of 3-track through plate girder bridge with concrete floor, replacing present structure carrying Port Richmond Branch tracks over Ridge Ave. at Laurel Hill.

★**Kinder, La.**—Contract awarded by Peavey-Byrnes Lumber Co. Kinder, to J. J. Burke, Lake Charles, La., at $50,000, to construct the Christy & Eastern RR. bridge 140 ft. long, east from Christy, on Kansas City Southern RR., and the Kinder & Northwestern RR. pile trestle with steel span bridge, 3000 ft. long, west of here, over Calcasieu River.

★**Brookville, Ind.**—Contract awarded by county (bids opened Mar. 5) to Burke Constr. Co., New Castle, Ind., at $59,999, to construct steel bridge over White River. Chas. G. Reifil, co. aud.

Rockville, Ind.—Contract awarded by County, for constructing steel bridge with cement pins to Burke Constr. Co., at $59,-999, to have three 300 ft. spans and two 70 ft. spans.

Chicago, Ill.—Lowest bid opened Feb. 28 by Comr. Pub. Wks. to construct new Franklin-Orleans steel bridge was from Ketler-Elliott Erection Co., 155 North Clark St., at $485,102, and from Great Lakes Dredge & Dock Co., 104 South Michigan Ave., at $238,915, for substructure, and from C. H. Norwood, 417 South Dearborn St., at $28,005, for electrical equipment; and from FitzSimmons & Connell Dredge & Dock Co., 10 South La Salle St., for substructure of Wells St. bridge.

★**Humboldt, Ia.**—Contract awarded by Bd. Supervs. to N. M. Stark & Co., Des Moines, Ia., at $9,865, to construct 70-ft. x 16-ft. and 65-ft. x 16-ft. steel span bridges, and to C. A. Miller, Humboldt, Ia., at $6,148, to construct 20 concrete culverts.

★**Sioux City, Ia.**—Contract awarded by Bd. Superv. to Western Bridge & Constr. Co., Omaha, for erecting 44 steel and concrete bridges in county at $39,664.

★**St. Charles, Mo.**—Contract awarded to Kansas City Bridge Co., Orear-Leslie Bldg., Kansas City, at $148,732, to reconstruct St. Charles highway bridge.

★**Spokane, Wash.**—Contract awarded by Spokane & Inland Empire RR. (A. J. Davidson, gen. supt.) to Porter Bros., local, at $35,000, to reconstruct approaches to Rock Creek bridge.

ROADS AND PAVING

PROPOSED WORK

Providence, R. I.—Engr. Com., City Council, intends constructing with macadam surface on 8-in. concrete base new highway from Allen's Ave. to city dock road, 3000 ft. long and 36 ft. wide. M. H. Bronsdon, city engr.

Hartford, Conn.—City has received authority to pave 4 miles of highways each year. Address Street Comrs.

Binghamton, N. Y.—Bd. Estimate and Apportionment intends paving 10 streets this summer.

Far Rockaway, L. I., N. Y.—Estimated cost of proposed Rockaway Boule. between here and Jamaica placed at $480,000, of which state will pay $130,000 for work in Nassau Co., remainder of work being in Queens Co., New York City, for which latter's Bd. Estimate has been asked to appropriate funds.

Geneseo, N. Y.—Bd. Supervs. plan construction of 10 to 12 miles of roads of which Dansville-Conesus and Geneseo-Lakeville roads will be constructed this year; other roads to be constructed are: Short Tract-Portage, Groveland Station-Groveland-Hunts Corners and Tuscarora-Barrons Corners highways.

Geneva, N. Y.—Improved Roads Com. of Bd. Supervs., Canandaigua, considering contemplated plans of State Highway Dept., Albany, to construct road from here westerly and then northerly to Phelps.

Hudson Falls, N. Y.—Washington Co. contemplates issuing $250,000 bonds for proposed highway work; supervs. considering improvement of road, ⅛ mile, between Argyle and Ft. Edward and road between Comstock and Middle Granville. Address Superv. Sawyer.

New York, N. Y.—Bd. Estimate, Municipal Bldg., has appropriated $80,000 to replace planking on Brooklyn Bridge with wood blocks. F. G. H. Kracke, comr., dept. plants & structs., Municipal Bldg.

Atlantic City, N. J.—State Highway Comn., Trenton, intends constructing 56 miles of roads in Atlantic Co. during coming 5 years at estimated cost of $25,000 per mile; county will share $660,000 of total cost, $1,400,000. Albert Beyer, dir. finance.

Bound Brook, N. J.—Contracts will soon be awarded by Boro. for oiling 11 streets. John W. Reed, boro. clk.

Cliffside Park, N. J.—City will spend about $30,000 for road construction. McClave & McClave, city engrs.

Collingswood, N. J.—Boro. Council considering report filed with mayor proposing immediate flotation of $120,949 bonds as boro.'s portion of cost, which is one-half, for proposed repaving of streets; other half will be assessed against abutting property owners.

Elizabeth, N. J.—Bd. Freeholders intend paving Mountain Ave. 3 miles long and 22-ft. wide, from Mountainside to Springfield, with tar surfacing on concrete base; estimated cost $90,000; also Springfield Ave. in town of Cranford; estimated cost $45,000. Jacob L. Bauer, co. engr., 120 Broad St.

Harrison, N. J.—Bd. Freeholders, Jersey City, contemplates constructing new county road from Jersey City through here to Harrison Ave. Bridge, thence over bridge to Broad St., Newark.

Jersey City, N. J.—Hudson Boulevard Comn., Court House, Jersey City, intends paving with bituminous concrete laid under 5-year guarantee 5 miles of Hudson Boulevard in West Hoboken and this city, for which contracts will probably be awarded in April.

Lakewood, N. J.—City contemplates paving 4th and Lexington Aves. with concrete; estimated cost about $60,000.

Newton, N. J.—Contract will soon be let for paving with reinforced concrete Sparta Ave., cost about $12,000. E. M. Dutcher, chmn., town comn.

Paterson, N. J.—Bd. Freeholders contemplate improving Paterson Ave. between Erie R. R. and Passaic River at estimated cost of $100,000. Garwood Ferguson, co. engr.

Port Murray, N. J.—No bids were received Mar. 10 by Mansfield Twp. (S. H. Perry, twp. clk., Port Murray) for improving 10,641 sq. yd. on Hackettstown-Rockport road.

Trenton, N. J.—Bd. Freeholders intend paving with asphaltic oil, portions of River Road, Upper Ferry, Sullivan's Way, Grover's Mill, highways, etc., and with asphalt, Chamber St.

Court of Errors and Appeals has revoked contract awarded for repairing Newark Turnpike, and Board of Freeholders will readvertise for bids. Co. Engr. Thos. Wasser's estimate on wood block paving was about $487,000.

Bloomsburg, Pa.—Reported city intends constructing about 20,000 sq. yd. of brick pavement. W. H. Byer, city engr.

East Mauch Chunk, Pa.—Boro. intends paving Centre St. at estimated cost of $15,000.

Indiana, Pa.—State Highway Dept., Harrisburg, intends constructing road from end of Stewart St. to Cokeville, also road from Cokeville to Derry and road from Black Lick to macadam road this side of Indiana; also Blairsville to McCormick bridge; state pays one-half, county one-quarter and twps. one-quarter of proposed improvements. Wilbur P. Graff, state senator.

Johnstown, Pa.—Contract will be awarded by county to construct Millcreek road, about 1 mile long, for which surveys are being made by O. P. Thomas, co. engr.; contracts will probably shortly be awarded by State Highway Comn., Harrisburg, to construct brick road, 7 miles long, from Munday's to East Taylor Twp., passing through Jackson Twp., for which county has pledged $35,000 and the townships larger sums.

Lebanon, Pa.—City Council plans issuance of $230,000 street paving bonds and intends paving sections of 6th and 7th Sts. this summer.

Philadelphia, Pa.—Bureau Highways (W. H. Connell, ch.) intends spending $6,000,000 this year for street paving of which work costing $1,480,000 will be started in April; in addition, plans for new paving costing $300,000, for county roads $250,000, Northeast Boule. roadways extension $200,000, and completion of Southern Boule. plaza $125,000, are being prepared to be let in April; before June contracts will be let to complete west side of League Island Park to the extent of $500,000.

Pittsburgh, Pa.—Estimated cost of Dept. Pub. Wks. contemplated repaving work for this year, placed at $124,000; largest jobs being Preble Ave., $20,000; Forbes St., $15,-500; Butler St., $15,000. E. J. Martin, city clk.

Reading, Pa.—City intends oiling its streets this year at estimated cost of $10,000.

Washington, Pa.—County will hold election May 1 to vote $1,000,000 bonds for proposed highway improvements.

West Berwick, Pa.—Street bonds for $50,000 will be sold Apr. 16 by C. W. Dickson, boro. solicitor.

West Middlesex, Pa.—Boro. voted Mar. 7 to issue $15,000 bonds for proposed paving work and sewerage system. F. H. Bair, boro. secy.

York, Pa.—City intends paving this year 9 sections of highway, total of 1.2 miles, at estimated cost of $50,000; some of streets, portions of which are to be paved, are Belvidere and Rouse Aves, West and George Sts., and 7 others.

Brooklyn, Md.—Contemplated road between here and Pumphrey's Station, Anne Arundel Co., will be constructed of concrete. Address Co. Clk., Annapolis.

Federalsburg, Md.—Town proposes to improve its streets at estimated cost of $10,000.

Towson, Md.—County intends improving with state aid 3 miles of North Point road from where it intersects Wise Ave. and 1.10 miles on Hereford road.

Georgetown, Del.—City will spend about $15,000 for constructing concrete road from center of town to du Pont Blvd.

Bedford, Va.—Forest Dist., Bedford Co., intends spending $75,000 this year on road improvements, near city limits of Lynchburg.

Lynchburg, Va.—Estimated cost to complete improvement of Main St., including work to be done by Traction & Light Co. (Elmer E. Barnard, engr., ways and struct.), placed at $100,000.

Norfolk, Va.—Estimated cost to pave with concrete portions of Hall and Central Aves., Virginia, Madison, Factory and Hill Sts. (the principal streets will be 18 ft., shorter ones 10 ft. wide), placed at $18,946. John H. Mitchell, chmn. street com.

Rustburg, Va.—Brookville and Seneca dists., Campbell Co., intends spending this year $240,000 on roads leading to Lynchburg.

Beckley, W. Va.—County will probably receive bids latter part of April for $835,-000 bonds for proposed paving with concrete and macadam 175 miles of roads in 4 districts. C. L. Scott, Jr., highway engr.

Ceredo, W. Va.—Paving bonds for $30,000 will be sold Mar. 26 by John K. Grate, city recorder.

Fairmont, W. Va.—Lincoln Magisterial Dist., Marion Co., voted on Mar. 7 $650,000 bonds for proposed construction of 30 miles of hard surfaced roads.

Lenoir, N. C.—County will hold election May 8 to vote $250,000 bonds for proposed road improvements.

Wentworth, N. C.—County intends constructing 135 miles of roads, this year, at estimated cost of $200,000. T. S. Malloy, pres. bd. comrs.

Beaufort, S. C.—County will vote not later than Nov. 1, on question of issuing $500,000 bonds for proposed road work.

Chester, S. C.—County will hold election March 27 to vote $450,000 bonds for proposed road work. R. S. Mebane, chmn. highway comn.

Columbia, S. C.—City intends constructing concrete walks on portion of Bull St. at estimated cost of $8,000.

Greer, S. C.—Contracts about to be awarded by city to pave with asphalt, Trade, Hill and Emma Sts. and construct sidewalks on other streets, estimated cost $100,000.

Laurens, S. C.—County will hold election March 27 to vote $300,000 bonds for proposed road work.

Pickens, S. C.—County contemplates issuing $250,000 bonds for proposed road work.

Alma, Ga.—Bacon County will hold election June 14 to vote $100,000 bonds, of which $60,000 is for proposed road work.

Columbus, Ga.—Grading and paving Front St., this spring, by city, involves additional work by Seaboard Air Line Ry. (W. D. Faucette, ch. engr., Norfolk, Va.); total cost aggregates several thousand. Robert Reid, chmn., street dept.

Ogelthorpe, Ga.—Bonds for $100,000 to construct and improve bridges in county will be sold Apr. 1 by Comrs. of Roads and Revenues, for which election will be held Mar. 15. A. H. Perry, clk. bd. comrs.

Waycross, Ga.—County Comrs. intend constructing, this year, several miles of roads with either brick or concrete. John Voumans, comr.

Dade City, Fla.—Dist. No. 4. Pasco Co., will hold election April 10 to vote bonds for proposed construction of 115 miles of roads. Waldo M. Francisco, co. engr., Zephyr Hills.

Starke, Fla.—City intends issuing $18,000 to $30,000 bonds for street improvements. C. A. Futch, city clk.

Greenwood, Miss.—Contracts will be awarded this spring by Bd. Supervs. (J. L. Haley, pres.) for road work for which $600,000 bonds were recently voted of which $100,000 have been issued. Roy Bew, clk. of bd.

Chattanooga, Tenn.—County considering construction of 2-mile concrete road up Lookout Mountain for which funds to purchase material are being raised by residents on mountain. L. B. Bryan, co. engr.

Lenoir City, Tenn.—City intends extending pavement on B'way for four blocks at estimated cost of $24,000.

Mountain City, Tenn.—County voted $200,000 bonds for proposed road improvements.

Lexington, Ky.—Contracts will soon be awarded by county to pave 10.54 miles of Winchester road from this city's limits to Clark Co. line; estimated cost for asphalt pavement placed at $95,000, of which state pays $15,000 and Fayette Co. $32,500. R. W. Davis, co. road engr.

Nicholasville, Ky.—Bd. Council intends paving with concrete base North Main St. from Louisville & Nashville depot to city limits, estimated cost $12,000.

Canton, O.—City intends paving with vitrified brick or sheet asphalt on concrete base, redressing and resetting old curbing and setting new stone on concrete curbing where necessary and relaying old stone or concrete sidewalks, and laying new concrete or sawed stone sidewalks where necessary on portions of Herbruck Court, Correll Ave., 14th and 22d Sts. W. Edgar Jackson, clk. of council.

Cincinnati, O.—Contracts will shortly be awarded by county (Albert Reinhardt, clk.) to repair 9 tar-bound county roads; estimated cost $40,673; and for oil for oiling streets this summer, estimated cost $38,305; county intends treating inter-county roads with asphalt to make same dustless, at estimated cost of $81,620. Wm. Boeh, co. surv.

Cleveland, O.—County Comrs. (E. G. Krause, clk.) intend improving Gessner road in North Olmstead village and Smith road in Middleburg Twp. and Brookpark village, for which plans have been completed by W. A. Stinchcomb, co. surv.

Delaware, O.—All bids received by city Mar. 6 to construct and repair sidewalks, curbs and gutters for year 1917 rejected; new bids will be received latter part of April. C. G. Rose, dir. serv.

Lakewood, O.—Bonds for about $47,645 for paving portions of Athens, Franklin Aves. and numerous other streets will be sold Apr. 2 by B. M. Cook, dir. finance.

Lima, O.—Contracts for which bids will be asked on brick, sheet asphalt, asphaltic concrete and wood block will soon be awarded by city to pave portions of 8 streets, of which 3 are Leland and Madison Aves. and Jackson St.

Painesville, O.—Surveys being made by H. P. Cummings, co. engr., Painesville, to construct with monolithic brick or concrete North Bridge road, 13 miles long and 18 ft. wide, from here to Ashtabula Co. line; estimated cost $28,000 to $30,000 per mile.

Sidney, O.—County intends paving total of 41,200 sq. yd. on Sidney-Wapakoneta, Urbana-Sidney and Piqua-St. Mary's roads with concrete, brick and asphaltic macadam with macadam and concrete base and earth and gravel fill where necessary; estimated cost $63,000. C. A. Maurer, co. surv.

Toledo, O.—City Council has authorized issuance of $150,000 bonds voted in 1915 for boulevard purposes.

Greensburg, Ind.—County Comrs. considering construction of John Kanouse road in Clay Twp., $11,684; William Ralston road in Sandcreek Twp., $9,535; Sam Kirk road in Washington and Clinton Twps., $8,131.

Logansport, Ind.—Cass Co. Bd. Supervs. have granted petition requesting election to vote $600,000 bonds for proposed highway construction work.

Lafayette, Ind.—County intends paving with brick at estimated cost of $17,000 to $20,000 per mile, under 3-mile road law, Main St. and Springvale road, each 24 ft. wide, and 4th St., 18 ft. wide. Address Ed. Marshall, comr., Court House.

Petersburg, Ind.—Reported that about 15 miles of roads will be constructed. Address Edward H. Scales, co. clk.

South Bend, Ind.—City Council intends awarding contracts this spring to pave portions of Calvert, Frances and Fuerbringer Sts., Bway. and Franklin Ave. and 3 alleys; also construct sewers in portions of Ostemo and Dayton Sts.

Bonds for $27,500 for constructing and improving highways will be sold Mar. 20 by Edward F. Keller, co. treas.

Big Rapids, Mich.—Reported city (W. W. Willits, mgr.) will pave about 33,000 sq. yd. with asphalt this summer and may buy apparatus for same.

Kalamazoo, Mich.—County contemplates holding election to vote $1,000,000 bonds for proposed road construction work.

Michigan—About 1300 miles of state highways and 300 miles of township roads will be built in this state this year, of which 300 miles will be constructed in northwestern Michigan—100 miles being in Wexford, Manistee, Mason and Mecosta Cos. L. H. Neilson, dist. state highway engr., Cadillac.

Decatur, Ill.—Contract will be awarded by city this spring to pave streets at estimated cost of $18,000; sewer system will also be constructed at estimated cost of $10,000. Warren Engr. Co., Decatur.

Hillsboro, Ill.—Contracts will be awarded this spring by city to pave with brick number of streets; estimated cost $30,000. Warren Engr. Co., Decatur, Ill.

Monticello, Ill.—Contract will be awarded by county late this spring to construct about 1 mile of brick road, 10 ft. wide. T. J. Anderson, co. supt. highways.

Oregon, Ill.—County will shortly hold election to vote $500,000 bonds for proposed grading and paving highways with cement or other hard surfacing material; Lincoln highway between Rochelle and Ashton will be constructed with state aid.

Peoria, Ill.—Estimated cost of proposed paving of portion of Krause Ave., placed at $9,505.

Princeton, Ill.—Contracts will shortly be awarded by State Highway Comn., Springfield, and Bd. Supervs., Princeton, to construct following roads: In Greenville Twp., $12,859; Arispie Twp., $12,382; Hall Twp., $12,534; Elm St. road, Princeton, $11,485. John Johnson, highway engr.

Ransom, Ill.—Township voted $48,000 bonds for proposed hard surfacing of roads.

Rushville, Ill.—Reported that 3 miles of concrete roads will be constructed. Address James A. Long, co. clk.

Waukegan, Ill.—Bd. Local Impts. intends paving total of 21 blocks; with brick, portion of Oak St.; with concrete, portions of May, Nott and Lenox Sts. and Helmholz Ave., and on South Ave., 3 blocks with concrete, and 2 with macadam. M. J. Douthitt, city engr.

Prairie Du Chien, Wis.—City intends paving with asphalt macadam by day labor 10,000 sq. yd. and will purchase the asphalt binder, for which samples may be sent to W. G. Kirchoffer, engr., 22 N. Carroll St., Madison, Wis., and W. H. Turbitt, city clk., with quotations.

Richland Center, Wis.—Paving bonds for $24,000 will be sold Mar. 30. R. Sutton, city clk.

Rhinelander, Wis.—Oneida Co. (John J. Verage, co. aud.) intend holding election to vote $140,000 bonds for highway work.

Sioux City, Ia.—Contracts will be awarded by county probably April 1 to construct about 12 miles of permanent roads, as follows: 3 miles between Moville and Correctionville; 2½ miles between here and Moville and between here and Smithland and also between Oto and Smithland.

Estimated cost of proposed paving work for this year placed at $350,000. Address City Clk.

Minneapolis, Minn.—Estimated cost of paving work ordered by City Council for this year placed at $311,736, including work remaining from last year; cost equals $500,000; largest uncompleted 1916 job being on 27th Ave. south ($70,455); largest ordered for this year being on West 26th St. ($62,550). E. R. Dutton, ass't. city engr.

Hennepin Co. and city of Shakapee intend improving road with federal aid across Minnesota River bottoms, each paying one-third of cost, estimated at $45,000, and involving removal of 100,000 cu. yds. earth and raising grade of road 8 ft. for 3½ miles. E. E. Terrell, co. surv., Minneapolis.

St. Paul, Minn.—City Council has ordered immediate improvement of portions of East 6th and Arcade Sts. by paving with vitrified brick on concrete base, except small section which will have sandstone surface, and construction of concrete curbing and making of necessary sewer, water and gas connections. Address Comr., Bd. Pub. Wks.

Downs, Kan.—Plans being prepared by E. T. Archer, engr., New England Bldg., Kansas City, Mo., for paving work for city; estimated cost $30,000.

Hays, Kan.—Plans being prepared by E. T. Archer & Co., New England Bldg., Kansas City, Mo., for paving work for city; estimated cost $100,000.

Beatrice, Neb.—City voted on Mar. 6 $40,000 bonds for paving street intersections.

Bozeman, Mont.—City Clk. C. A. Spieth intends grading and paving with bitulithic portions of Olive and Curtis Sts. in special improvement dist. No. 145 at estimated cost of $11,633.

Kansas City, Mo.—Bd. Pub. Wks. (L. Oppenstein, pres.) passed resolutions to repair and maintain for one year the asphalt pavement on portions of Grove and Oak Sts. and Walrond, Troost, Chestnut and other avenues; also to repair and maintain brick pavement on portions of Michigan Ave. and to pave alley between Main and Walnut Sts. with blocks on 8-in. concrete foundation.

Palmyra, Mo.—County intends to improve about 10 mi. of W. Ely Road, cost about $21,000; also 3 mi. of Philadelphia-Cherry Dell Road; cost about $10,000.

Conway, Ark.—Court received petition asking for creation of improvement dist. to construct Conway-Saltillo highway. Address E. L. Smith, judge.

Earle, Ark.—Reported city intends constructing about 1½ mi. of street pavements. H. C. Crum, recorder.

Wynne, Ark.—County intends constructing gravel and concrete road from here to Crittenden Co. line and bridge over St. Francis River at Parkin, en route. Address C. B. Amos, comr.

Beaumont, Tex.—Committee has been appointed (J. J. Nathan, member) to confer with comrs. court in regard to completion of proposed $190,000 Beaumont-Sour Lake Road.

Huntsville, Tex.—Bedias Dist., Walker Co., will hold election April 7 to vote $25,000 bonds for proposed graveling or paving of roads. W. J. Kelly, co. road engr.

Macie, Tex.—Comrs. Court, Bracketville, intends constructing road between here and Standart along railroad tracks of Galveston, Harrisburg & San Antonio RR.

Frederick, Okla.—City contemplates paving 52 blocks with vibrolithic at estimated cost of $95,000. H. A. Pessey, engr., Oklahoma City.

Sallisaw, Okla.—Hanson Twp. (R. L. Horn, chmn. com.) intends holding election Mar. 31 to vote $16,000 bonds for proposed road and bridge work.

Tulsa, Okla.—City (J. M. Askison, city treas.) intends constructing a 15 to 20-mile boulevard encircling city, with $100,000 park and boulevard bonds recently sold. John H. Simmons, mayor.

Chehalis, Wash.—J. D. Neville, co. engr., preparing plans for constructing 1¾ mi. of Pacific Highway; cost about $18,000.

Montesano, Wash.—County intends paving 2 miles of Olympic highway between here and Aberdeen; estimated cost $25,000; also gravel C. D. Hansen road. G. D. Robertson, co. engr.

North Yakima, Wash.—County Comrs. (C. E. Barrett, aud.) intend constructing 3 miles of road in dist No. 3 for which $25,000 is available. O. E. Brashears, co. engr.

Spokane, Wash.—County intends constructing 24½ miles of permanent highway at estimated cost of $350,000 on Apple Way, Normal road and Fairfield road. A. R. Scott, co. engr.

Hood River, Ore.—H. H. Hurlburt, co. surv., reports that considerable paving work will be done this spring in Lower Valley; cost about $41,000.

Oregon.—State Senate, Salem, has passed bill authorizing special election in state, June 4, for $6,000,000 bonds for proposed road construction work.

The Dalles, Ore.—As Supreme Court has declared valid $260,000 bonds voted some time ago for proposed road work, bonds will be advertised for sale. Address Ch. Justice McBride.

Bakersfield, Cal.—Contract will soon be awarded by city to construct cement curbs and walks, concrete and corrugated iron culverts and manholes and pave with sheet asphalt on asphaltic concrete portion of 20th St. R. G. Ballagh, city clk.

Fairfield, Cal.—Bd. Superv. will construct complete highway system.

Modesto, Cal.—City will hold election to vote $80,000 bonds—$40,000 for street improvements, $30,000 for storm sewer system, $10,000 to construct swimming pool.

Palo Alto, Cal.—Reported city will pave about 7 miles of roads with concrete. Address C. P. Cooley, mayor.

San Francisco, Cal.—Bd. Wks. intends recommending to Bd. Supervs. that Buchanan St. from Hermann St. to Duboce Ave. be opened at estimated cost of $25,000.

Caldwell, Idaho.—Petitions being circulated to create paving dist. in residential section of city for contemplated paving of 70 blocks at estimated cost of $150,000.

Lewiston, Idaho. — Council has passed resolution to improve by grading, parking and constructing cement walks in Dist. No. 11, in all about 200 lots.

BIDS DESIRED

Northampton, Mass.—Until Mar. 20, by city clk., for furnishing 60,000 gal. road oil; oil to contain 45 per cent asphalt; Joseph J. Fowler, supt. of streets.

Brooklyn, N. Y.—Until Mar. 21 by L. H. Pounds, boro. pres., for improving portions of Calyer, Humboldt, Rush St., Dumont Ave. and numerous other streets with asphalt and granite pavement. Total security, $34,450.

New York, N. Y.—Until Mar. 26, by Marcus M. Marks, boro. pres., for regulating, repaving portions of Clark, 15th, 19th and three other streets with granite block pavement on concrete foundation and one street with sheet asphalt; total security, $9,700.

Elizabeth, N. J.—Until Apr. 2 by Bd. Freeholders (Benjamin King, clk.) for improving Mountain Ave. with bituminous dressing surface upon concrete foundation; about 37,538 yd. surface pavement required.

Layton, N. J.—Until Apr. 7, by Twp. Committee (D. M. Johnson, chmn.), for improving with gravel surface on gravel foundation Ennis—Bridge—Flatbrookville road in Sandyston twp.; advertised in this issue.

Orange, N. J.—Until Apr. 3 by Bd. Comrs. (Harry D. Wethling, dir. sts. and pub. impts.), City Hall, for about 25,000 sq. yd. of wood block pavement on concrete foundation. Fred T. Crane, city engr.

Plainfield, N. J.—Until Apr. 9, by Common Council (Andrew J. Gavett, st. comr., 151 North Ave.), for paving certain streets with reinforced concrete and vitr. brick; advertised in this issue.

Stone Harbor, N. J.—Until Mar. 26 by Leo McCraven, boro. clk., for grading and surfacing 12 streets and curbing 17 streets.

Apollo, Pa.—Until Apr. 9 by Sterling G. McNees, secy. boro., for grading, paving and curbing portions of Armstrong Ave., N. 8th, Grace Sts., etc., advertised in this issue.

Elizabeth, Pa.—Until Mar. 26 by Boro. Council (J. H. Graham, Jr., chmn.) for grading, curbing and paving portions of Bayard St.; cost about $10,000.

Philadelphia, Pa.—Until Mar. 20 by Dept. Supplies for gravel for surface treatment of macadam roads; also for gravel chips; total cost about $53,000.

Pittsburgh, Pa.—Until Mar. 20 by Dept. Pub. Wks. (John Swan, dir.) for grading, paving and curbing portions of Ursuline, Sterrett, Olympia Sts., South Nigley Ave. and numerous other streets.

Baltimore, Md.—Reported desired until Mar. 27, by Joseph B. Harrington, co. clk., for constructing section of state aid highway in Talbot Co.

Norfolk, Va.—Until Mar. 28 by Bd. Control for paving portions of 5 streets with sheet asphalt on concrete base. W. H. Taylor, city engr.; advertised in this issue.

Greenville, Miss.—Until Apr. 12, by Co. Highway Comrs., for surfacing about 830,000 sq. yd. of highway; J. S. Allen, engr.; advertised in this issue.

Centreville, Tenn.—Until Mar. 30 by Highway Comn. (T. H. Erwin, secy.) for grading about 40 miles road requiring about 220,000 cu. yd. excavation, etc.; $225,000 bond issue recently voted for this purpose. T. C. McEwen, co. engr.

Whitesburg, Ky.—Until Apr. 12 for constructing roads; cost about $50,000. Address Co. Judge.

Cincinnati, O.—Until Mar. 21 by Chas. F. Hornberger, dir. pub. serv., for constructing cement walks and appurtenances in sidewalk dists. Nos. 1, 2, 3 and 4 for the year 1917.

Lorain, O.—Until Mar. 28 by Dir. Pub. Serv. (L. B. Johnson, clk.) for constructing about 32,540 sq. yd. pavement on portions of Elyria Ave., E. 32d and many other streets.

Portsmouth, O.—Until Mar. 23, by Ralph Calvert, dir. pub. serv., for grading, curbing and paving with vitr. or hard burnt brick, portions of 10th, Jefferson, 4th Sts., and many other streets.

Indiana.—By Co. Comrs., for constructing following roads:

Mar. 22:

Lawrenceburg, road on line of Dearborn and Ripley Cos.; H. E. Lutherbeck, co. aud.

Mar. 24:

Greencastle, for 5903 ft. gravel road in Madison Twp., 15,839 ft. macadam and gravel road in Monroe Twp., 14,631 ft. gravel road in Jackson Twp., and 13,774 ft. macadam road in Cloverdale and Warren Twps.; Joe. M. Allen, co. aud.

Apr. 2:

New Albany, for 6,090 ft. road in Albany Twp.; Emile Dupaquier, co. aud.

Versailles, crushed stone roads in Adams and Johnson Twps.; J. Francis Lochard, co. aud.

Rockport, road in Ohio Twp.; J. Frank Stocking, co. aud.

Kentland, macadam road on Iroquois, Washington Twp., line; S. R. Sizelove, co. aud.

Apr. 3:

Salem, for constructing 3 roads in Washington and Brown Twps.; E. E. Batt, co. aud.

Albion, for 4 roads in Perry and Sparta Twps.; George A. Young, co. aud.

Corydon, for stone road in Taylor Twp., and stone road on line between Harrison and Webster Twps.; Sam C. Mauck, co. aud.

Logansport, for road in Tipton Twp.; A. P. Flynn, co. aud.

Plymouth, Ind.—Until Apr. 5, by Arthur W. Thomson, co. aud., for constructing 22.57 mi. of gravel roads; cost about $71,722.

Jackson, Mich.—Until Mar. 29 by G. C. Cummin, city mgr., for paving several streets. A. W. D. Hall, city engr.; advertised in this issue.

Menominee, Mich.—Until Mar. 26 by F. S. Norcross, city clk., for constructing concrete curb and gutter on portions of Parmenter, Jenkins Sts., etc. T. R. Hasley, engr.

Plymouth, Mich.—Until Mar. 20 by C. D. Hearn, village clk., for constructing pavement, including grading, inlets, catch basins and storm sewers in portions of Penniman Ave., Union St., etc. John C. Cox, engr., Ann Arbor, Mich.; advertised in this issue.

Berwyn, Ill.—Until Mar. 20 by Oscar N. Lindahl, secy. bd. local imp., for constructing concrete curb and gutters and paving portions of Clarence Ave. with asphaltic concrete; assessment about $21,497. Alex. E. Nelson, city atty., 1714 Tribune Bldg., Chicago.

Kansas, Ill.—Until Mar. 24 by Russell Dawson, town clk., for constructing about 29,370 lin. ft. of gravel road; some of roads are Hite, Pleasant Hill, etc. K. J. Barr, supt. highways, Paris, Ill.

Kewanee, Ill.—Until about Apr. 15 for 28,000 sq. yd. asphaltic concrete and 18,000 sq. yd. monolithic brick paving, together with sewer extensions and 9000 of 6-in. c. i. water main extension; cost for paving about $113,000; waterworks, $205,000. H. G. Stokes, city engr.

Polo, Ill.—Until April 1 by Leon A. Zick, secy. bd. local impt., to pave with brick on concrete base requiring 2-in. fill, and constructing gravel and concrete combined curb and gutters; estimated cost $45,000. Marr, Green & Co., 17 North La Salle St., Chicago.

St. Charles, Ill.—Until Mar. 26 by P. Hempstead, city clk., for constructing about 15,000 sq. yd. two-course reinforced concrete pavement; advertised in this issue.

Richland Center, Wis.—Reported desired until Mar. 30 by W. H. Pier, comr. pub. wks., for paving portions of Park and 6th Sts. and resurfacing portions of Main St. with concrete.

Cherokee, Ia.—Reported desired until Mar. 20 by Bd. Superv. (W. O. Dailey, aud.) for constructing about 11 miles class A permanent road system.

Warren, Minn.—Reported desired until Mar. 21 by A. G. Lundgren, co. aud., for dragging state roads during season of 1917. Oswald Lind, highway engr.

Falls City, Neb.—Reported desired until Mar. 23, by city clk., for brick paving, gutters and curving, in Dist. No. 14; cost, about $23,881.

Omaha, Neb.—Reported desired until Mar. 20 by T. J. O'Connor, city clk., for paving, curbing and improving various streets.

Helena, Mont.—Reported desired until Apr. 1 by Lewis and Clark County (John Larson, chm. co. comrs.) for dragging county roads, about 125 miles; bidders must live in county.

St. Charles, Mo.—Until about May 5 for 6720 sq. yd. 2-course concrete pavement with reinforcement, 2240 cu. yd. grading, 480 lin. ft. combined granitoid curb and gutter. Address Carr Edwards, city engr.

Eureka Springs, Ark.—Until Mar. 22 by Comrs. Road Improv. Dist. No. 1 for constructing road from here to Benton Co.; work includes about 100,000 cu. yd. grading, 5 miles graveling, 2000 lin. ft. culvert pipe in place, 500 ft. steel bridge over White River, 10,000 ft. 4 and 6-in. drain tile, etc. R. D. Alexander, engr., Eureka Springs.

Jacksonville, Tex.—Until Mar. 20 by J. E. McFarland, secy. road comn., for constructing four roads, in all about 30 miles of gravel highway.

Terrell, Tex.—Reported desired until Mar. 27 for improving portion of Asylum Ave., Johnson and 9th Sts., about 12,587 sq. yd. asphalt macadam and same amount of reinforced concrete. H. Brewster, city engr.

Davenport, Wash.—Until Mar. 30 (change of date), by Co. Comrs. (J. E. Heaward, co. aud.), for graveling 12¼ mi. of permanent highway No. 3; cost about $40,000.

Pomeroy, Wash.—Until Mar. 28 by E. E. Powell, co. aud., for surfacing and constructing portion of subgrade of Pomeroy-Dayton Road. M. W. Fitzsimmons, co. engr.

Fresno, Cal.—Until about Apr. 1 by W. H. Ryan, city clk., for constructing 149,700 sq. ft. 4-in. concrete pavement with 1½-in. bitulithic surface, 5180 lin. ft. cement curbs, 10,360 sq. ft. concrete gutters, 18,000 sq. yd. grading, concrete and corrugated iron culverts in portions of B St.; also for 50,400 sq. ft. similar pavement, cement curbs, concrete gutters, together with grading, etc., on portions of White Bridge Ave.

Merced, Cal.—Reported desired until Apr. 2 by J. D. Wood, city clk., for paving with asphalt on concrete base 15 blocks of streets and 3 blocks of alleys.

Yreka, Cal.—Until Apr. 2 (new date) by W. J. Neilon, co. clk., for constructing highway from top of Forest House Mountain to floor of valley near Ft. Jones, a distance of 3¼ miles.

PRICES AND LETTINGS

★*Indicates award of contract.*

Buffalo, N. Y.—Following are lowest bids opened Feb. 15 by Arthur W. Kreinheder, comr. pub. wks., to pave on concrete base, including construction of sandstone curb—(1) 4559 sq. yd. on Shoreham Blvd., 18 ft. wide on each side of center strip, (2) 3046 sq. yd. on Tacoma Ave., 26 ft. wide, (3) 3250 sq. yd. on Wilbury Place, 26 ft. wide, (4) 2979 sq. yd. on Stratford road, 26 ft. wide, (5) 3490 sq. yd. on Strathmore Ave., 26 ft. wide, without curbing, (6) 9410 sq. yd. on Virginia Ave., 18 and 32 ft. wide, (7) 3525 sq. yd. on North St., 30 ft. wide, (8) 10,113 sq. yd. on Dearborn St., 30 ft. wide, (9) 1926 sq. yd. on Camden Ave., 28 ft. wide, (a) Erie Contr. Co., Morgan Bldg., (b) German Rock Asphalt Co., Inc., Morgan Bldg., (c) Henry P. Burgard Co., 1968 Fillmore Ave., (d) Constantine Constr. Co., 240 Dewey Ave., (e) John Johnson Constr. Co., 765 Abbott Road, contractors all of Buffalo, N. Y., (f) Louis H. Gipp Constr. Co. On 1 (a) bid with brick, $26,150, (b) bid with German Rock Co.'s standard asphalt, $22,819, (c) bid with standard asphalt as specified, $22,800. On 2 (a) bid with brick, $22,150, (b) bid with German Rock Co.'s standard asphalt, $19,418, (c) bid with standard asphalt as specified, $19,800. On 3 (a) bid with brick, $46,400, (c) bid with standard asphalt as specified, $37,375. On 4 (a) bid with brick, $16,800, (b) bid with German Rock Co.'s standard asphalt, $15,597, (c) bid with standard as-

phalt as specified, $16,000. On 5 (a) and (d) bid with brick, each $13,600, (b) bid with German Rock Co.'s standard asphalt, $14,815, (c) bid with standard asphalt as specified, $15,000, (e) bid with asphalt block, $14,820. On 6 (a) bid with brick, $48,600, with dressed block Medina sandstone, using Portland cement grout filler, $62,715, (b) bid with German Rock Co.'s standard asphalt, $44,130, (c) bid with standard asphalt as specified, $38,580. On 7 (a) bid with brick, $17,650, (b) bid with German Rock Co.'s standard asphalt, $13,920, (c) bid with standard asphalt as specified, $14,450. On 8, with brick, (a) bid $42,700, (f) $40,900, (b) bid with German Rock Co.'s standard asphalt, $41,200, (c) bid with standard asphalt as specified, $39,275. On 9 (a) bid with brick, $12,150, (b) bid with German Rock Co.'s standard asphalt, $10,413, (c) bid with standard asphalt as specified, $10,020.

★**Irvington, N. Y.**—Contract awarded by village (bids opened Mar. 6) to Hastings Pavement Co., 25 Broad St., New York City, at $130,646, to pave Broadway. Jos. A. Murphy, village clk.

New York, N. Y.—Following are lowest bids opened Mar. 6 by Pres. Boro. Bronx, Municipal Bldg., 177th St. and 3d Ave., for grading, setting curb, laying sidewalks and crosswalks, constructing inlets, receiving basins, drains, culverts, approaches and guard rails where necessary in Ellis Ave.: O. Daniels Co., 233 Bway., $19,637; F. Schneider, Westchester Ave., $20,367; for same work plus repaving with granite blocks on sand base on portion of E. 149th St., L. C. Manuel, 29 Bway., $12,487.

Olean, N. Y.—Lowest bid received by Comrs. Pub. Wks. for grading and paving 20,000 sq. yds. and constructing necessary curbs was from D. D. Dugan, local, at $50,000.

★**Riverhead, N. Y.**—Contract awarded by town (Charles O. Downs, highway supt.) to Standard Oil Co., 29 B'way, New York City, at $5.94 per gal to furnish 150,000 gal. road oil.

★**South Amboy, N. J.**—Contract awarded by Bd. Freeholders to Liddle & Pfeiffer, Perth Amboy, N. J., at $52,571, to repave with Warrenite South Amboy-Sayreville road.

★**Sussex, N. J.**—Following are 4 lowest bids received by Bd. Freeholders (Harvey Snook, co. engr.), Newton, to pave Ross' Corner-Sussex road: Franklin Contr. Co., 52 Vanderbilt Ave., New York City, $109,-588 (awarded contract); M. Irving Demarest, Sewaren, N. J., $112,462; Gray Constr. Co., Morristown, N. J., $111,047; G. W. Lawrence Co., Newark, N. J., $117,310.

Ventor City (Atlantic City, P. O.), N. J.—Following are bids opened Mar. 5 by city to pave with asphalt 19,000 sq. yd.: Warner-Quinlan Co., Syracuse, N. Y., $47,932; E. L. Boder, Atlantic City, N. J., $52,387; J. M. Kelly Constr. Co., Camden, N. J., $57,087. W. J. Risley, city engr.

★**Philadelphia, Pa.**—Contract awarded by Dept. Pub. Wks. to Union Paving Co., 30th and Locust Sts., Philadelphia, at $293,000, to patch various asphalt streets; and to Barrett Mfg. Co., 36th St. and Gray's Ferry, and Atlantic Refining Co., 3144 Passayunk St., Philadelphia (firms dividing contract), at $90,000 for furnishing bituminous materials for surface treatment of macadam roads.

★**Baltimore, Md.**—Eight contracts awarded Feb. 22 by Bd. Awards to Ward & O'Connell, 3114 Presbury St., Baltimore, at $135,000 and two to Cement, Lime & Stone Co., Atlanta, Ga., for paving private alleys.

Lowest bid opened Mar. 2 by Bd. Awards to grade and pave 16 streets in northeastern and northern annex of city was from the American Paving Co., Montebello Ave. and Jenkins Lane, at $1.81 per sq. yd. for sheet asphalt.

★**Parkersburg, W. Va.**—Lowest bid received by city to pave Juliana St. was from C. Kennedy & Son at $22,450, to pave with brick and construct stone curb, or at $22,554 to pave with brick and construct concrete curb, appropriation being $18,586. Contract awarded by city to Graham Bros. at $11,435 (total), to pave with brick portions of Washington Ave., Depot and 12th Sts.

★**Wellsburg, W. Va.**—Contract awarded by county (bids opened Mar. 1) to Wilt, Frazier and Van Duzer, Wellsburg, W. Va., to pave route No. 1 and routes No. 10-11, Hulkills and Huff Run roads. C. A. Eichelberger, co. engr.

★**Perry, Fla.**—Contract awarded by county (bids opened Feb. 6) to Edwards Constr. Co., Tampa, Fla., to construct road, 86.94 miles long, requiring 101,545 cu. yd. excav., 605,406 cu. yd. embankment, 443,693 sq. yd. pavement, 917,074 lin. ft. wood curbing. W. A. Sanders, engr., Perry.

★**Lake Charles, La.**—Contract awarded Healy Constr. Co., New Orleans, at $80,000 for constructing good roads.

Attica, O.—Following are bids opened Feb. 23 by Co. Comrs., Tiffin, to improve (a) 0.43 mile of Attica road in Attica and (b) 0.69 mile of this road in Venice twp.: Louis Schauder, Tiffin, (a) $30,315, (b) $14,134; Modern Constr. Co., Fremont, O., (a) $30,600, (b) $14,130; Rolla Myers, Attica, (a) $30,629, (b) $14,134; C. A. Latshaw & J. G. Stinchcomb, Fostoria, O., (a) $30,600, (b) $16,000.

Cincinnati, O.—Lowest bid received by county and recommended for acceptance was from Chas. Staab, Main St., Reading, O., at $24,833, to pave Kemper road with concrete.

★Contract awarded by city (Chas. F. Hornberger, service dir.) to Kirchner Constr. Co., 221 W. 9th St., at $30,480 (city engr.'s estimate, $31,167) to pave with wood block portion of Vine St.; next lowest bidder, Henkel & Sullivan, Mercantile Library Bldg., at $30,480; contrs. local.

★**Cleveland, O.**—Contract awarded by city to Roehl Bros., West 25th and Clark Sts., at $31,750, to grade, pave and curb portions of Storen Ave., West 33d and West 74th Sts.

★**Warren, O.**—Contracts awarded Feb. 20 by Bd. Control to F. L. Geiger at $18,468, to pave 1st St., and at $8,344 to pave Hunter St.; to Smith Engr. & Constr. Co. at $9,055 to pave Harmon St.

★**Wooster, O.**—Contract awarded (bids opened Feb. 21) by Bd. Control to Markley & Greist, local, at $18,334, to pave South Bever St.

Rushville, Ind.—Following are 4 lowest bids opened March 5 by county to construct 13,950 lin. ft. cement roadway: Edward G. Gant, Greenfield, Ind., $45,250; A. F. Cohee, $45,500; Geo. T. Miller, $46,017; Masters Constr. Co., $46,000.

★**Shelbyville, Ind.**—Contract awarded by county (bids opened Mar. 7) to Harshman & Jarrell, Frankfort, Ind., at $24,570 (total) to construct 3 gravel and concrete roads. F. W. Fagel, co. aud.

★**Lapeer, Mich.**—Contract awarded by county to W. H. Knapp, Monroe, Mich., at $64,000, to construct 10 miles of road and to Byron Courter, Brown City, Mich., at $13,000, to construct 4 miles of road.

Port Huron, Mich.—No bids were received by Co. Rd. Comrs. Mar. 3 to construct about 3 miles of concrete pavement on Port Huron-Beards Yale road.

★**Bement, Ill.**—Contract awarded by county (T. J. Anderson, co. supt. highways, Monticello) to W. F. Lodge & Co., Monticello, Ill., at $13,112, to pave a street here with monolithic brick, 10 ft. wide.

★**Cambridge, Ill.**—Contract awarded by city to Gund Graham Co., Freeport, Ill., to pave 6050 sq. yd. with brick. H. G. Stokes, engr., Kewanee, Ill.

★**Centralia, Ill.**—Contract awarded for 14,650 ft. state highway road near Tamms to H. L. Wedding, Cairo, Ill.

East St. Louis, Ill.—Lowest bid received by city to pave and improve portion of Piggott Ave. (engr's estimate $54,000) was from Meyer & Thomas Constr. Co., local.

★**Ft. Sheridan, Ill.**—Contract awarded to C. P. Moran & Co., Waukegan, Ill., P. O. Box 155, at $22,470 for road work requiring about 9,051 lin. ft. bituminous macadam and concrete.

★**Peoria, Ill.**—Contracts awarded by Road & Bridge Com., Bd. Supervs., to pave with concrete, 15-ft. wide, roads as follows: Galena road to Keokuk Quarry & Constr. Co., Keokuk, Ia., $36,086; Mt. Hawley road, 2 miles long, to Stocker Gravel & Const. Co., Highland, Ill., $30,794; Farmington road, 1 mile long, to Miller-Biehl Co., Peoria, Ill., $15,048.

★**Princeton, Ill.**—Contract awarded by city to John Cherry, Jacksonville, Ill., at $121,396 to pave Euclid Ave. and Pleasant and W. Peru Sts.

★**Sterling, Ill.**—Contract awarded by town (bids opened Mar. 7) to F. G. Giffrow, at $16,222, for paving road, 1 mile long and 16 ft. wide, with brick. Roy P. Baer, town clk.

★**Oconomowoc, Wis.**—Contract awarded by Bd. Pub. Wks. (bids opened Mar. 2) for 14,934 sq. yd. paving with asphaltic concrete on 5 in. concrete base, 6087 cu. yd. excav., 456 lin. ft. curb and gutter and 540 lin. ft. retaining curb, to Nelson-Weber Const. Co., Oconomowoc, at $27,026, using Texaco asphalt at $1.59. Other bidders: Jas. Cape & Sons, $30,410 with Mexican asphalt, at $1.80; Lehmann Bros., Watertown, $30,660 with Mexican, at $1.80; E. L. Bartlett, Watertown, $31,371 with Aztec or Mexican, at $1.85; J. Alex. Stemper, city engr.

Milwaukee, Wis.—Dept. Pub. Wks. received bid of $1.50 per sq. yd. F.O.B. cars, from Racine Stone Co., Racine, for 25,000 sq. yds. crushed stone.

★**Portage, Wis.**—Contract awarded by city (bids opened Mar 6) to White Constr. Co., Milwaukee, Wis., at $75,560, for curbing, guttering and paving work. Fred F. Goss, city clk.

Sheboygan, Wis.—Lowest bids received by city to construct retaining walls in city and pave with concrete following streets are: Pestein & Nauman, at $14,724, for portions of East Water and North 6th Sts. and Jefferson Ave. and at $20,618, for portion of Dillingham Ave. John Braum, at $9,565, for portion of Park Ave.

Denison, Ia.—Following are lowest bids opened Feb. 21 by county on 8 groups of grading aggregating 450,639 cu. yd., on 37 miles of roads: Groups 1, 3 and 6, Phelan & Shirley, $40,722; groups 5, 7 and 8, Geo. W. Condon, Omaha, Neb., $29,286; groups 2 and 4, W. R. Shipman, $18,736.

★**Waterloo, Ia.**—Contract awarded by city (bids opened Feb. 26) to Bryant Asphalt Paving Co., Waterloo, Ia., at $195,-000, to pave 105,000 sq. yd. with sheet asphalt and asphaltic concrete and construct 68,000 lin. ft. curb and curb and gutter. C. W. Eby, asst. city engr.

St. Paul, Minn.—City will use own labor to pave portions of streets for which bids were asked on Feb. 13 and Feb. 19. H. W. Austin, city purchasing agent.

★**Columbus, Kan.**—Contract awarded by city (bids opened Mar. 5) to Watts & Amerman, Salina, Kan., at $25,272, for street paving. F. H. Hawkins, city clk.

★**Kansas City, Mo.**—Road contracts awarded in 1916 but not carried out, to Davidson Const. Co., Michael Ross and Charles Gidinski, for Hiler Road, Chapel Road and Kentucky Ave. respectively; road fund for 1917 available.

St. Charles, Mo.—All bids received by city Mar. 5 rejected; lowest bid was from Striebel & Helmick, Alton, Ill., at $1.79 per sq. yd. to pave 6721 sq. yd. with 2-course concrete at $0.50 for grading and at $0.65 per lin. ft. to construct 480 lin. ft. curb and gutter, 2½ ft. wide. Carr Edmonds, city engr.

Davenport, Wash.—All bids opened Mar. 7 by county (J. E. Heaward, co. aud.) rejected because too high; bidders were G. L. Stickler, Pullman, Wash., $46,445; Spokane Asphalt Macadam Paving Co., Spokane, Wash., $47,000. See Bids Desired.

Duwamish, Wash.—Lowest bid opened by Co. Comrs. (N. M. Wardall, aud.), Seattle, to pave with any one of 9 materials, permanent highway No. 3-D between here and Renton Junction, 19,881 ft. long, requiring 44,700 sq. yds. paving, 800 cu. yds. excav. and 42,000 ft. lumber, was from Independent Asphalt Paving Co., Seattle, ranging from $71,297 for one course concrete to $134,980 for brick.

★**Pomeroy, Wash.**—Contract awarded by city to pave with asphaltic concrete, 4-in. base, street 24 ft. wide, to Clifton, Applegate & Toole, Spokane, at $18,800 ($1.25 per sq. yd.)

★**Seattle, Wash.**—Contract awarded by county (bids opened Feb. 26) to Erickson & Hicker, 1002 North Ainsworth Ave., Tacoma, Wash., at $24,918 (engr's estimate $21,403) to pave with concrete, 18 ft. wide, permanent highway No. 15. For bids opened Mar. 5, to H. J. McLean, Seattle, at $15,-167, to grade 2½ miles of highway around Mercer Island. Thos. D. Hunt, deputy co. engr.

★**Corvallis, Ore.**—Contract awarded by city to Montague-O'Reilly Co., Blake-McFall Bldg., Portland, at $11,500, to pave certain streets.

★**Manhattan Beach, Cal.** — Contract awarded (bids opened Mar. 1) by city to Redondo Contr. Co., 218 South Redondo Ave., Redondo Beach, Cal., at $55,952, to pave 27 blocks with reinforced concrete, requiring 84,383 sq. ft., 13 flights of stairs, 7500 lin ft. vitrified, cement and corrugated iron pipe, reinforced concrete walls up to 22 ft. high, balustrades and concrete lighting posts.

★**Pasadena, Cal.**—Contract awarded by city to Thos. C. Breitenstein, 465 Van Wyck St., at $11,155, to have 115,000 sq. ft. on Glenarm St. with 5-in. concrete.

★**Santa Barbara, Cal.**—Contract awarded by city to Municipal Impt. Co., Richmond, Cal., at $16,162, to pave Anacapa St.

Wallace, Idaho—Lowest bid with maintenance guarantee opened Feb. 26 by city to pave 44,000 sq. yds. with 2-in. surface on 4-in. base in business dist. was from C. M. Payne, Spokane, Wash., $71,383, for concrete; from Henry J. Kaiser, Everett, Wash., $74,960, for standard bituithic.

RAILWAYS
Steam and Electric

PROPOSED WORK

Watertown, N. Y.—New York Central RR. Co. (G. W. Kittredge, ch. engr., New York) reported considering elimination of grade crossing at Coffeen St.

Jersey City, N. J.—Hudson & Manhattan RR., operating the Hudson Tubes, a subsidiary of Pennsylvania RR. (Alex. C. Shand, ch. engr., Philadelphia, Pa.) plans construction of two new tracks for high-speed lines, third rail system, from point near Summit Ave. to portal of Jersey City tunnel.

New Brunswick, N. J.—Bd. Pub. Utility Comrs., Trenton, has approved plans of Pennsylvania RR. (Alex. C. Shand, ch. engr., Broad St., Philadelphia, Pa.) for proposed elimination of 3 grade crossings here.

Rutherford, N. J.—Bd. Pub. Utility Comrs. (Alfred N. Barber, secy.), Trenton, approved plans of Erie RR. (R. S. Parsons, ch. engr., 30 Church St., New York City) for proposed elimination of grade crossings here and in East Rutherford and South Bergen; estimated cost $200,000.

Conemaugh, Pa.—Plans being prepared by engineers of Pennsylvania RR. Co. (Alex. C. Shand, ch. engr., Philadelphia) for electrifying Pittsburgh Division from Conemaugh and Altoona, about 35 miles.

Lederach, Pa.—Trolley line being considered from here to Palm, Pa.; both towns interested.

Wesleyville, Pa.—New York, Chicago & St. Louis RR. (E. E. Hart, ch. engr., Cleveland, O.), New York Central RR. (G. W. Kittredge, ch. engr., New York), and East Erie Commercial RR. Co. reported to have been asked to prepare and submit plans by Apr. 15 to State Railroad Comn. at Harrisburg for the construction of an under-pass at Water St. here.

Sago, W. Va.—Baltimore & Ohio RR. Co. (R. N. Begien, ch. engr., Baltimore, Md.) to construct a short link between here and Hampton to connect with the coal and coke road, 2½ miles; cost about $100,000.

Harlan, Ky.—Reported Louisville & Nashville RR. (H. L. Williams, ch. engr., Louisville) will construct 8 miles of coal-carrying road from Kilday to Seagraves Creek, near here.

Mater, Ky.—Reported Louisville & Nashville RR., (H. L. Williams, ch. engr., Louisville) will construct 3 miles of road from Kona Station to Wright.

Chillicothe, O.—Hillsboro, Cynthiana, Bainbridge & Chillicothe Traction Co. (J. C. Anderson, secy.) plans constructing line from here to Hillsboro.

Detroit, Mich.—Michigan Central RR. Co. (G. H. Webb, ch. engr.) has applied to State RR. Comn. for permission to issue $3,702,000, part of which will be used for new construction and improvement work.

Cedar Rapids, Ia.—Iowa Railway & Light Co. (John May, ch. engr., Boone) considering a high tension electric line from its plant at Nevada to Dayton Lake Amusement Park, 11 miles. Plans also being made to extend line through Gilbert to Story City.

Des Moines, Ia.—Des Moines City Ry. Co. (Emil G. Smith, pres.) plans laying 11 miles of new track along old routes and several new lines and extensions.

Wichita, Kan.—Arkansas Valley Interurban Ry. (Chas. D. Bell, ch. engr.) plans constructing 5 miles of track from 24th St. to the Middle Valley RR. depot.

Quapaw, Okla.—Miami Mineral Belt RR. Co. incorporated with $200,000 capital to construct 25 miles of line from here to Columbus, Kan. Incorporators, J. A. Frates, Jr., Springfield, Mo.; J. H. Grant, Oklahoma City, and others.

Twisp, Wash.—E. Byron Siens, promoter of the Methow Valley & Eastern Ry., with headquarters here, states railroad will be constructed from Pateros on the Great Northern-Wenatchee-Oroville branch to Winthrop in the Methow Valley, a distance of 45 miles; cost $1,500,000.

Albany, Ore.—Cascade Contract Co., of Portland, will construct 2½ miles of railroad to extend from Saddle Butte rock quarries, construction to begin soon.

Baker, Ore.—Sumpter Valley R. R. Co. (E. B. Pengra, gen. mgr.) plans spending $150,000 on improvements as follows: elimination of numerous heavy curves, straightening track, ballasting, Larch trestle tracks laid, 500 ft. fill replacing the trestle and reducing grade; extensive improvements in South Baker yards, including cuts and fills, increase storage track capacity. Boulder gorge track to be straightened, 1000 tons of steel rails laid, new bridge constructed at this point, yard improvements at Austin.

Bend, Ore.—A line will be constructed from here to Trinidad, Cal., a few miles north of Eureka, where it is planned to make a junction with the Northwestern Pacific Ry. (J. W. Williams, ch. engr., San Francisco, Cal.), by the Hill Ry. System.

Oregon City, Ore.—Williamette Valley Southern Ry. (J. L. Stacer, ch. engr.) plans extending line from Mount Angle to Silverton; cost about $120,000.

California.—Reported Western Pacific RR. (T. J. Wyche, ch. engr., San Francisco) is surveying for line from Modesto to Mendota, about 66 miles, thence through Panoche Pass to Hollister and Monterey, about 42 miles; also for line from Mendota to Fresno, about 30 miles.

Orange, Cal.—Salt Lake RR. Co. (H. G. McGuire, ch. engr., Los Angeles) will construct a loop through La Habra Valley, through Yorba Linda, across Santa Ana River, through Olive and Villa Park to McPherson, 2 miles east of Orange.

Victoria, B. C.—Reported Esquimault & Nanaimo Ry. Co. (H. J. Cambie, ch. engr., Vancouver) plans expending $150,000 on improving tracks, including the replacement of wooden trestles with permanent steel bridges.

BIDS DESIRED

Philadelphia, Pa.—Until Mar. 27, by A. C. Shand, ch. engr., Pennsylvania RR., Broad St. Station, for eliminating grade crossings in Chestnut Hill Branch.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**College Park, Ga.**—Reports state contract awarded by Atlanta & West Point RR. Co. (C. A. Wickersham, pres. and gen. mgr., Atlanta) for double tracking road from here to Palmetto, a distance of 14 miles, to Brooks-Callaway Co., Healy Bldg., Atlanta, at about $150,000.

★**Middleton, Tenn.**—Contract awarded for construction of 20 mile link of Gulf, Mobile & Northern R. R. (W. F. Owen, pres., Mobile, Ala.) to W. A. Wogan, 1229 1st National Bank Bldg., Denver, Colo.

Portland, Ore.—Reports state that Twohy Bros., Portland, is lowest bidder on grade work for Oregon, Washington RR. & Navigation Co. (S. Murray, ch. engr.); his bid was $600,000.

Brooklyn, N. Y.—Following are 4 lowest bids with unit figures opened Mar. 5 by Pub. Service Comn., 1st District, for relocation and reconstruction of street surface railroad on New Utrecht Ave. from 39th to 81st St.: (a) Thomas Crimmins Contr. Co., 444 E. 69th St., New York, $165,509; (b) Conners Bros. Co., Inc., 153 W. Kingsbridge Rd., New York, $208,424; (c) Oscar Daniels Co., Woolworth Bldg., 233 Bway., New York, $209,066; (d) Kaufman & Garcey, 51 Chambers St., New York, $209,866.

	(a)	(b)	(c)	(d)
11,200 cu. yd. earth excavation	$1.50	$2.00	$1.00	$2.00
7,500 cu. yd. furnishing and placing fill bet. sub-gr. and top of rail	0.01	0.50	0.20	0.40
1,400 cu. yd. furnishing and placing fill bet. st. surf. and sub-grade	0.10	0.40	0.20	0.40
30 cu. yd. for concrete masonry in place	20.00	20.00	12.00	20.00
115 cu. yd. for brick masonry in place	25.00	20.00	13.00	20.00
35 cu. yd. for removal of old masonry	10.00	10.00	10.00	20.00
60 sq. yd. for 3-ply waterproofing	2.00	2.00	2.00	3.00
10 ton for riveted steel painted and erected	250.00	150.00	130.00	150.00
4 ton for removal and disposal of steel	10.00	40.00	30.00	20.00
1 ton for steel beams and shapes, etc	200.00	160.00	130.00	150.00
1 ton for steel rods and bars, built in concrete	140.00	150.00	90.00	150.00
1 ton for miscellaneous iron castings	75.00	120.00	80.00	150.00
45 for removing and replac. sewer manhole heads, each	5.00	10.00	6.00	5.00
230 lb. for special wire forms	0.15	0.30	0.20	0.20
Street Surface Restored:				
3,800 sq. yd. for temp. restoration and maintenance of roadways	1.00	0.70	0.50	0.60
700 sq. yd. for all surface of whatever character	4.00	2.50	2.50	2.00
90 sq. yd. for new wood block pavement in place	4.50	3.50	4.00	2.50
For leveling off space occupied by existing tracks (lump sum)	1,000.00	3,000.00	2,000.00	1,000.00
25,200 lin. ft. sg. tk. constr. new st. surface RR. tracks	4.00	5.00	5.50	5.10
For Constr. New Surface RR. Special Work Track:				
Portion No. 1, 39th St. and New Utrecht Ave (lump sum)	3,956.00	5,000.00	6,000.00	4,200.00
Portion No. 2, New Utrecht Ave. bet. 39th and 40th Sts. (lump sum)	2,706.00	3,000.00	3,000.00	2,600.00
Portion No. 3, New Utrecht Ave. bet. 61st and 62nd Sts. (lump sum)	2,836.00	3,000.00	3,000.00	2,600.00
26,000 lin ft. for trolley wires in place	0.52	0.85	0.80	1.00
For relocating feeder cables (lump sum)	9,500.00	7,000.00	13,000.00	7,000.00
Water Pipes, Incl. All Appurtenances:				
100 lin. ft. for 6-in. water pipe	0.01	1.50	1.00	1.00
100 lin. ft. for 8-in. water pipe	0.01	1.50	1.25	1.00
100 lin. ft. for 12-in. water pipe	0.01	2.50	1.50	1.00
Cast Iron Gas Pipes, Incl. All Appurtenances:				
100 lin. ft. for 4-in. gas pipe	0.01	1.00	1.00	1.00
200 lin. ft. for 6-in. gas pipe	0.01	1.50	1.00	1.00
100 lin. ft. for 8-in. gas pipe	0.01	2.50	1.25	1.00
New Water and Gas Pipe:				
5 ton for new cast iron hub and spigot, straight pipe	0.01	60.00	40.00	80.00
1 ton for new cast iron hub and spigot pipe, sp. casting	0.01	80.00	65.00	100.00
Electric Ducts and Conduits in Street:				
300 duct ft. for electric ducts and conduits in place	0.01	0.50	0.50	2.00
100 duct ft. for wooden ducts and conduits in place	0.01	0.80	0.50	1.00
100 duct ft. for fibre ducts and conduits in place	0.01	1.00	0.50	1.00
For removal of material in existing tracks subtract from total	100.00	8,000.00	8,000.00	6,000.00

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK

Providence, R. I.—Plans being prepared by Charles R. Makepeace & Co., 420 Butler Exchange, for erecting addition to United Lace & Braid Co. plant at Auburn, 90 x 200 ft.; cost $75,000.

Bennington, N. Y.—See "Reinforced Concrete."

East Orange, N. J.—General Electric Co., 30 Church St., New York, will erect 3-story addition, 94 x 138 ft., with wing 28 x 39 ft., to Edison Lamp Works plant at Springdale Ave. and 18th St., here, to cost $80,000.

East Orange, N. J.—American Radiator Co., 820 So. Michigan Ave., Chicago, increased its capital from $12,000,000 to $25,000,000 for erecting extensions.

McAfee, N. J.—Reported Bethlehem Steel Corp., 1st Nat'l Bank Bldg., Pittsburgh, will erect plant here to cost $500,000.

Newark, N. J.—James A. Banister Co., Orange St., increased its capital from $250,000 to $1,000,000 for erecting additions to shoe factory.

Plainfield, N. J.—See "Reinforced Concrete."

Chester, Pa.—Scott Paper Co., 7th and Glenwood Aves., Philadelphia, plans erecting new branch plant here to cost $500,000. E. I. Scott, pres.

Johnstown, Pa.—Haws Refractories Co has taken over brick plants and properties of A. J. Haws & Son, Ltd., and plans erecting brick plant with capacity of about 100,000 9-in. bricks per day at Lewiston Narrows, to cost about $250,000.

Philadelphia, Pa.—Main Belting Co., Carpenter St., will erect 4-story, brick, 53 x 109-ft. addition to present plant.

Spring City, Tenn.—Reported Dayton City Hosiery Mills (A. B. Andrews, mgr., Dayton, Tenn.) will erect $50,000 hosiery mill here to be known as Spring City Hosiery Mill.

Indianapolis, Ind.—Reported new distribution station and warehouse will be erected by Hurst & Co. (L. T. Hurst, pres.), 341 N. Capitol Ave., to cost about $300,000.

Newport, Minn.—Bd. Directors of Farmers' Terminal Packing Co., taking bids for erecting plant to cost about $300,000. Address Secy. Bd., 919 Commerce Bldg., St. Paul.

St. Paul, Minn.—A. W. Trenholm, gen. mgr. of Chicago, St. Paul, Minneapolis & Omaha RR. Co., announces road will erect power house and additions to shops at W. 7th St.; cost about $300,000.

Great Northern Ry., A. H. Hogeland, ch. engr., plans erecting freight terminals here to cost $5,000,000.

Wichita, Kan.—Kansas Flour Mills Co. here plans erecting mill with daily capacity of 800 barrels of flour daily, to cost $120,000.

St. Joseph, Mo.—Reported Hax-Smith (H. A. Smith, pres.), 5th and Mitchell Aves., will erect 5-story, 120 x 125-ft. addition to present furniture factory to cost $100,000.

Halifax, N. S.—See "Reinforced Concrete."

Collingswood, Ont.—Wilson Bros., will rebuild planing mills recently damaged by fire with loss of $100,000.

Haileybury, Ont.—Riordon Pulp & Paper Co., 1 Beaver Hall Square, plans erecting sulphite plant here to cost $100,000.

Harrow, Ont.—Clark Canning Co. preparing plans for erecting brick addition to factory building to cost $50,000.

Oshawa, Ont.—Factory of Oshawa Interior Fittings Co. (W. J. Trick, owner) recently destroyed by fire with loss of $75,000, will be rebuilt and new machinery installed.

Port Stanley, Ont.—London and Port Stanley, Railway Bd. (Col. W. M. Spittal, People's Loan Co., London, Secy.), plans erecting grain elevator to cost $100,000.

BIDS DESIRED

Philadelphia, Pa.—Until Apr. 2, by Bureau Yards & Docks (F. R. Harris, ch.), Navy Dept., Washington, D. C., for erecting steel frame electrical and machine shop building.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Auburn, N. Y.**—Contract awarded Lackawanna Bridge Co., Buffalo, for erecting machine shop for McIntosh & Seymour Corp., totaling 200 tons of structural shapes

East Buffalo, N. Y.—See "Reinforced Concrete."

Harrison, N. J.—See "Reinforced Concrete."

Philadelphia, Pa.—See "Reinforced Concrete."

★**Philadelphia, Pa.**—Contract awarded the Austin Co., 2241 N. 29th St. for erecting 1-story, 205 x 300-ft. brick and iron addition to plant of American Engineering Co., N. W. corner of Wheatsheaf lane and Sepviva St.; cost $90,000.

★**Claymont, Del.**—Contract awarded Lewis F. Shoemaker & Co., Pittstown, Pa., for erecting rolling mill for Worth Bros. Co., requiring about 2000 tons of steel.

★**Baltimore, Md.**—Contract awarded by International Wood & Paper Products Co. to Gladfelter & Chambers, 36th St. and Roland Ave., for erecting 3-story, 40 x 109-ft. factory building at Lelington St. and Calverton Road.

BUILDINGS
Public and Private

PROPOSED WORK

Boston, Mass.—Reported Berkeley Trust will erect 11-story building on site recently purchased at corner of Stuart, Berkeley and Stanhope Sts. Land and building will cost $850,000. Geo. H. Meserve, archt.

Cambridge, Mass.—Reported Mayor W. D. Rockwood requested City Council to appropriate $80,000 for erecting addition to high and Latin school building.

Providence, R. I.—Plans completed by John F. O'Malley, 75 Westminster St., and Denis F. Dodd, 332 Grosvenor bldg., for erecting proposed 16 story hotel building, being promoted by A. H. Geertz, 87 Weybosset St.

Plans being prepared by Matthew Sullivan, 100 Boylston St., Boston, for erecting for Providence College new $2,000,000 Dominican institution here. Patrick P. Curran, secy., corporation.

Albany, N. Y.—Schenectady Council, Knights of Columbus, plans erecting new home to cost $75,000.

Batavia, N. Y.—Citizens voted $200,000 bonds for erecting brick high school building. Work will begin next June. E. E. Joralemon, archt., Buffalo.

Elmhurst, L. I., N. Y.—New York Telephone Co., 15 Dey St., New York, will erect 3-story telephone exchange building at Victor Place and B'way; cost about $75,000.

Bridgeton, N. J.—Bd. Educ. rejected bids received for erecting high school building as being too high. New bids will be taken soon on new appropriation of $175,000.

Elizabeth, N. J.—State Legislature, Trenton, has approved plans of city to erect almshouse to cost about $100,000.

Freehold, N. J.—Citizens voted bond issue of $100,000 for erecting high school building to cost about $82,000.

Irvington, N. J.—Bd. Educ. plans either erecting high school building to cost about $150,000 or erect addition to Madison Ave. high school to cost about $50,000.

Jersey City, N. J.—Bd. Educ. has ordered plans prepared by John T. Rowland, Jr., 100 Sip Ave., for erecting thirteen new school buildings to cost $5,000,000.

Somers Point, N. J.—Bethlehem Steel Co., South Bethlehem, Pa., plans erecting hotel near recently acquired proving grounds here to cost about $500,000.

Trenton, N. J.—Plans being considered by State House Comm. for erecting state administration building to house state courts, library and state museum.

Trenton, N. J.—Governor Edge signed bill for condemnation of West State St. properties for extension of Capitol buildings and grounds; plans erecting new administration building. State Archt. George S. Drew preparing plans.

Verona, N. J.—Bd. Freeholders of Essex Co. will erect country tuberculosis sanitorium.

Annville, Pa.—Election will be held Apr 10 for issuing bonds of $75,000 for erecting school building.

Bethlehem, Pa.—School Bd. plans erecting two grammar school buildings and a new high school, to cost about $600,000.

McKeesport, Pa.—United States Steel Corporation donated $100,000 to local Young Men's Christian Assn. toward erecting building to cost $200,000.

Norristown, Pa.—Y. W. C. A. plans erecting building in business district to cost about $150,000. Geo. M. Black and N. H. Larzelere reported interested.

Philadelphia, Pa.—Contract will soon be let for erecting public library at 19th and Vine Sts. to cost about $3,000,000.

Stanley Amusement Co., 1214 Market St., Philadelphia, plans erecting 1-story brick and steel theater at 19th and Market Sts., to cost about $750,000. Hoffman Co., archts.

G. E. Datesman, Dir. Pub. Wks., about to call for bids for erecting proposed convention hall to cost about $1,350,000.

Baltimore, Md.—City plans erecting hospital for infectious and contagious diseases to cost about $180,000.

Washington, D. C.—Reported Knights of Columbus, 606 E St. N. W. plan issuing bonds for erecting new home here to cost $150,000.

Bessemer, Ala.—Citizens will vote on bond issue of $100,000 for erecting high school building.

Prentiss, Miss.—Election will be held for issuing $100,000 bonds for erecting school building.

Alexandria, La.—Plans being prepared by Favrot & Livandais, archts., Perrin Bldg., New Orleans, for erecting Leland College building to cost $100,000.

First Nat'l Bank are having plans prepared for erecting 8 or 10-story office building. Address Pres.

Winnfield, La.—See "Reinforced Concrete."

Akron, O.—Reported Church of Christ, Wabash Ave., plans erecting edifice on Wooster Ave. to cost $60,000.

Cincinnati, O.—Plans being prepared by Dittoe, Fahnestock and Ferber for 2-story addition and improving entrance of store of Rollman & Sons Co., 5th and Vine Sts., to cost $100,000.

Mogadore, O.—Plans prepared for erecting two factory buildings, one 162 x 60 ft., 2 stories, the other 34 x 80 ft., and power house, 60 x 64 ft., 1-story, for India Rubber Co. J. M. Alderfer, pres., 60 Cherry St., Akron, receiving bids.

Woodville, O.—Election will be held Mar. 27th for issuing $80,000 bonds for erecting rural school buildings.

Bloomington, Ind.—Senate passed measure for appropriation of $350,000 for erecting School of Medicine at Indiana University.

Granite City, Ill.—Tri-City Central Trades Council completed arrangements for erecting (by July 1) labor temple to cost $50,000.

Ottawa, Ill.—Election will be held Apr. 6 for issuing $50,000 bonds for erecting addition to city hospital.

La Crosse, Wis.—La Crosse lodge, Benevolent and Protective Order of Elks, plan erecting $100,000 clubhouse.

Marshfield, Wis.—Preliminary plans being prepared for erecting hospital building, power house and laundry, to cost about $100,000, for St. Joseph's Hospital. Emil Brielmaier & Sons Co., University Bldg., Milwaukee, archts.

Milwaukee, Wis.—Reported St. Rose of Lima Catholic Church plans erecting $100,000 school and sisters' house at 13th and Sycamore Sts.

Minneapolis, Minn.—Plans being prepared by Perry E. Crosier, 900 Plymouth Bldg., for erecting hotel building at 22d St. and Hennepin Ave. to cost $200,000.

Legislature will indorse Minneapolis bond issue of $300,000 for enlarging Glen Lake tuberculosis sanatorium to be erected in fall.

Willmar, Minn.—Citizens voted $95,000 bonds for erecting junior high school building here. Address Bd. Educ.

Billings, Mont.—Reported Protestant hospital will be erected here to cost $100,000; new structure will be conducted by Deaconesses now operating similar institutions in Great Falls, Butte and Bozeman.

Pine Bluff, Ark.—School bonds for $165,000 for erecting high school building will be sold Mar. 31 by School Dist. Address H. B. Strange, secy.

Cleburne, Tex.—Citizens voted $250,000 for improvements and buildings for Bd. Educ.

Dallas, Tex.—Election will be held in near future for issuing $500,000 bonds for erecting school buildings.

Oklahoma City, Okla.—City will rebuild city hall recently destroyed by fire, to cost between $150,000 and $300,000. Address City Clk.

Tulsa, Okla.—W. M. Smith plans erecting theater to cost $150,000. George Winkler, archt.

Everett, Wash.—Plans being prepared by W. W. Hastings for erecting 3-story, 75 x 120 ft. apartment house, to cost $60,000. Plans will be ready Mar. 25th.

Seattle, Wash.—Reported bonds for $1,083,000 for purchasing sites and erecting school buildings will be sold Mar. 28 by Seattle School Dist.

Bakersfield, Cal.—Plans being prepared by Thos. B. Wisemen, Brower Bldg., for erecting 4-story brick lodge building at 17th St. and Chester Ave., for Bakersfield Odd Fellows Temple Assn., cost $60,000.

Eagle Rock, Cal.—Citizens voted $65,000 bonds for erecting school building. H. G. Shearin, 223 N. Paloma St., clk.

Modesto, Cal.—Byron A. Bearce, pres. and gen. mgr. Tidewater Southern RR. Co., San Francisco, states company will spend $75,000 for erecting terminals here.

Sacramento, Cal.—Dr. W. A. Briggs reports Physicians' Building, 10th and K Sts., will be remodeled, to cost between $75,000 and $100,000.

San Francisco, Cal.—Plans were prepared by Leo. J. Devlin, Pacific Bldg., for erecting city hospital at Park Hill and Buena Vista Ave. in Western Addition to take place of present St. Joseph Hospital; cost $600,000. It is to be a 6-story building.

Dartmouth, N. S.—School Bd. (A. Elliott, secy.) plans erecting high school building this summer to cost $80,000.

Amqui, Que.—Plans being prepared by Thos. Raymond, 43 Carron St., Quebec City, for erecting stone church to cost $75,000. Tenders will be called in May.

Brampton, Ont.—School Bd. (Dr. J. G. Roberts, chmn.) plans erecting high school building to cost $75,000.

BIDS DESIRED

Burrillville, R. I.—Until Mar. 21 by Joseph C. Sweeney, town clk., for erecting high school building on Sayles Ave., Pascoag. Thomas S. McLaughlin, 87 Weybosset St., Providence, archt.

Syracuse, N. Y.—Until Apr. 2 by New York State Fair Comn., for erecting horse exhibit building to cost about $10,000. L. F. Pilcher, state archt., Albany; advertised in this issue.

Troy, N. Y.—Until Apr. 13, by U. S. Eng.'s office, Army Bldg., 39 Whitehall St., N. Y. City, for erecting 2-story, eight-room stucco Lock Master's House here; advertised in this issue.

Cape May Court House, N. J.—Until Mar. 30 for erecting 2-story and basement brick high school building; separate bids for heating, plumbing and ventilating and electric wiring. Joseph Douglas, dist. clk.

Chester, Pa.—Until Apr. 16, by John H. Mirkil, supt, parks and pub. prop., for erecting new city hall; separate bids for heating, plumbing and electrical work; also for alterations for police headquarters; Clarence W. Brazer, 11333 Broadway, N. Y., archt.

Harrisburg, Pa.—Reported desired until Mar. 22 by the Hoffman Co., Finance Bldg., Philadelphia, archts., for rebuilding 2-story theater for P. P. Magaro, Regent Theater, Market St., here.

New Brighton, Pa.—Reported desired until Mar. 22 (new date) by D. C. Schofield, secy. bd. educ., for erecting 3-story and basement, 145 x 127-ft. high school building; cost about $100,000. W. G. Eckles, Lawrence Savings & Trust Bldg., New Castle.

Philadelphia, Pa.—Until Mar. 21 by Zantzinger, Borie & Medary, archts., 15th and Walnut Sts., for erecting 2-story, hollow tile, brick and concrete building, 88 x 115 ft., at 43rd and Wallace Sts. for house of St. Michael and All Angels.

Reading, Pa.—Reported desired until Mar. 20, by Cyrus J. Rhode, co. controller, for erecting addition to Boys' Home on Schuylkill Ave.

Charleston, W. Va.—Until Apr. 2 by Co. Comrs. (Grant Copenhaver, pres.) for additions to court house. H. Rus Warne, archt.

Galion, O.—Until Mar. 20 by Bd. Educ. (C. C. Coyle, clk.) for erecting 2-story and basement brick and cement grade and high school building; cost about $110,000. Howard & Merriam, 8 E. Broad St., archts., Columbus.

Lima, O.—Until Apr. 2 by Bd. Educ (J. W. Gensel, clk.) for erecting high school and administration building. McLaughlin & Hulsken, archts., Lima. (Previous report an error.)

New Boston, O.—Reported desired until Mar. 21, by Thomas O'Neal, clk. bd. educ., for erecting high school building.

Rocky River, O.—Until Apr. 6, by C. H. Dean, clk. bd. educ., for erecting 2-story fireproof high school building; separate bids for heating, plumbing, electric work. W. H. Nicklas, 1900 Euclid Ave., Cleveland, archt.

Troy, O.—Until Apr. 2 by Bd. Educ., Bethlehem Twp., Rural School Dist. (C. W. Fry, clk.), R. F. D., Tippecanoe City, for erecting centralized grade and high school building in twp. G. R. Walker & Co., 1300 Conover Bldg., Dayton, O., archts.

Ft. Wayne, Ind.—Until Apr. 10, by Will Johnson, co. aud., for erecting tuberculosis hospital on New County Farm.

Sullivan, Ind.—Until Apr. 10, by Bd. Trustees (O. L. Springer, secy.), for erecting county hospital.

Monmouth, Ill.—Until Mar. 26 by J. B. Dibelka, state archt., 130 N. Fifth Ave., Chicago, for erecting armory building here; cost about $50,000.

Grand Mount, Ia.—Until Apr. 2 by R. C. Quinn, secy. bd. educ., for erecting school building for Independent School Dist.; separate bids for plumbing, heating, etc.

Crookston, Minn.—Until Mar. 26 by C. M. Anderson, secy. Bethesda Hospital Assn., for erecting addition to hospital building. Sund & Dunham, archts., 514 Essex Bldg., Minneapolis.

Mora, Minn.—Until Mar. 20 by School Bd. (C. E. Williams, secy.) for erecting high school building. E. F. Broomhall, archt., 710 Alworth Bldg., Duluth.

Ellsworth, Kan.—Reported desired until Mar. 26 by N. Fowler, secy. bd. educ., for erecting 2-story and basement high school building; cost about $50,000. H. B. Winters, Manhattan, archt.

Fresno, Cal.—Until Apr. 2, by Bd. Superv. for erecting 2 story, 158 x 83 ft., brick and concrete addition to county hospital; cost about $50,000; Class & Butner, Fresno, archts. (D. M. Barnwell, clk.).

Santa Paula, Cal.—Until about Apr. 1, for erecting 2 story and basement, 350 x 125 ft., reinforced concrete and hollow tile fruit packing house for Santa Paula Citrus Assn.; cost about $50,000; Allison & Allison, archts., 1405 Hibernian Bldg., Los Angeles.

Stockton, Cal.—Until Apr. 3, by E. D. Graham, co. clk., for constructing juvenile detention home.

Corvallis, Ore.—Until about Apr. 1 for erecting 2-story, reinforced concrete, brick and stone library building for Oregon Agricultural College; cost about $100,000. John V. Bennes, archt., Chamber of Commerce Bldg., Portland.

PRICES AND LETTINGS

★*Indicates award of contract.*

Springfield, Mass.—L. S. Scott, Springfield, submitted lowest bid to city for erecting addition to Chestnut St. school building at $115,955.

Hartford Conn.—H. Wales Lines Co., Meriden, were low bidders at $245,734 for erecting new north wing to H. P. H. School building.

★**Albany, N. Y.**—Contract awarded by city for city hall additions; general, M. Kantrowitz, Albany, at $330,000; plumbing, A. J. Eckert, Albany, at $13,000; heating, James Hunter Heating Co., Albany, at $33,000; electrical, S. W. Newman & Low, Albany, $8,000.

Kings Park, N. Y.—Following are four lowest bids received Feb. 28 by State Hospital Comn. for erecting employees' Home here: For general constr., McKeown Constr. Co., Inc., 103 Park ave., New York City, at $71,379; Charles Schneider & Son, 1251 DeKalb ave., Brooklyn, at $72,460; James McArthur, 22 Ormand pl., Brooklyn, at $73,000; Central Bldg. Co., Inc., 58 Front st., Worcester, Mass., at $79,600; for plumbing, Thos. E. O'Brien, Inc., 6305 5th ave., Brooklyn, at $10,093; heating, W. B. Armstrong, Albany, N. Y., at $6,767.

★**Port Henry, N. Y.**—Following contracts were awarded by Bd. Educ. for erecting proposed school building: General, John F. Crowe Constr. Co., Albany, at $64,414; heating, Johnston Heating Co., 131 E. 26th St., New York, at $11,689; plumbing, Gilbo & Swartz, Port Henry, at $7,798.

★**Bloomfield, N. J.**—Contract awarded by General Electric Co. to E. M. Waldron, 207 Market St., Newark, for erecting building at Lillie St. at $79,700.

Hoboken, N. J.—See "Reinforced Concrete."

Coatesville, Pa.—Following are lowest bids received by Bd. Directors Public Schools for erecting public school building on Charles St. to cost about $63,000: Main structure, W. J. Elliott, at $46,986; heating, American Heating & Ventilating Co. at $6,000.

★**Erie, Pa.**—Contract awarded by Bd. Educ. to Dawson Constr. Co., May Bldg., Pittsburgh, for erecting high school building to cost $350,000 and grade school building, 2-story and basement, to cost $200,000. W. B. Ittner, archt., Bd. Educ. Bldg., St. Louis, Mo.

Philadelphia, Pa.—Contract awarded by Bell Telephone Co. to Irwin & Leighton, 126 N. 12th St., Philadelphia, for erecting 3-story and basement, brick, steel and concrete telephone building at 57th and Chestnut Sts. at $200,000.

West Chester, Pa.—Metzger & Fisher, Dinckla Bl., Philadelphia, were low bidders for erection of 130 x 146 ft. 3-story brick school building at $113,837.

West Chester, Pa.—Metzger & Fisher submitted lowest bid to Bd. Educ. for erecting 3 story school building at Biddle and Church Sts., at $90,717.

★**Fairmont, W. Va.**—Contract awarded Chas. D. Keyser, Wheeling, for erecting 6-story brick building here for T. A. Daveny, to cost $110,000. Work will begin at once.

Morgantown, W. Va.—Bids opened by State Board of Control, Charleston, but contract will not be let for some time, for erecting agricultural building and girls' dormitory at W. Va. University to cost $290,000.

Morgantown, W. Va.—Contract awarded by West Virginia University to R. R. Kitchen, Wheeling, for erecting 3-story and basement, 90 x 188-ft. addition for agricultural building at $143,000.

★**Pensacola, Fla.**—Contract awarded Virginia Bridge & Iron Co., Roanoke, Va., for erecting steel dirigible hangar at Navy Station here at $64,000.

Birmingham, Ala.—Following are three lowest bids received by Treas. Dept., Washington, D. C., for erecting here 2-story brick, marble, concrete and steel, 164 x 358-ft. post office and court house (a) with Georgia grade A marble, (b) with Victoria pink marble: Charles McCaul Co., 1715 Sansom St., Philadelphia (a) $673,623, (b) $723,620. John H. Parker & Co., 315 4th Ave., New York City, (a) $678,973, (b) $725,675; Geo. Baker Long, Worcester, Mass. (a) $679,900.

★**Cleveland, O.**—General contract awarded E. A. Bishop, 1554 Grace Ave., Lakewood, for erecting home for Catholic working boys now at 8301 Detroit Ave.; cost $60,000.

★**Pontiac, Mich.**—Contract awarded W. H. Isgrigg & Son., Greensburg, Ind., for erecting 3 story fireproof high school building to cost $125,000. Perkins, Fellows & Hamilton, archts., 1100 Strauss Bldg., Chicago, Ill.

★**Table Rock, Neb.**—Contract awarded by Community Syndicate (E. E. Hanel, trustee) to Nebraska Building & Investment Co., Lincoln, for erecting combination hotel, theater, bank and garage building here to cost about $150,000.

★**Sioux Falls, S. D.**—General contract awarded Sioux Falls Constr. Co. for erecting 3-story and basement fireproof city hall building at $86,868. Walter C. Leyse, city aud.

★**Butte, Mont.**—Contract awarded Mowat & Cannon, Butte, at $100,000. for erecting hotel for Ben Bank Realty Co. Jesse M. Warren, archt., Daly Bank Bldg., Butte.

★**Livingston, Mont.**—Contract awarded by Park Co. Comrs. to George H. Pew, Missoula, Mont., for erection of high school building here at $63,180.

★**Spokane, Wash.**—Contract awarded by Cowley & Thompson., archts., to Porter Bros., Railway Exchange Bldg., Spokane, for erecting 8-story business building for Symonds Investment Co., Howard St., between 1st and Sprague Aves.

★**Willows, Cal.**—Contract awarded Welsh Bros. & Hannaman, Kalispel, Mont., for erecting U. S. Postoffice here to cost $68,607.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK

Atlantic City, N. J.—City Comrs. passed ordinance providing for development of inlet harbor and construction of docks and wharves; ordinance providing $116,000 for the work also passed.

Bayonne, N. J.—Lehigh Valley RR. (E. B. Ashby, ch. engr., New York City) contemplates constructing pier at foot of Chapel St. here, to cost about $12,500,000.

Camden, N. J.—Rivers & Harbors Com. of Bd. of Trade recommends construction of two 150-ft. wide piers and 500-ft. dock on waterfront at Spruce St.; cost $250,000.

Fortescue, N. J.—Town contemplates constructing 1800-ft. pier into Delaware Bay; also lay new boardwalk.

Morristown, N. J.—Black River Power Co., incorporated with capital of $10,000 to dam any river in the state, Black River in Morris County being particularly designated for purpose of securing power. Incorporators, Edw. A. Marey, Chas. B. Bradley and Robt. J. Bain.

Seaside Park, N. J.—Plans for reconstructing public dock, calling for removal of old piling and bulkheading with concrete, are under consideration by Mayor C. W. Mathis and members of Borough Council.

Stone Harbor, N. J.—Stone Harbor Council has approved plans of M. B. Reeve, Wildwood, for constructing piers; cost $18,000.

Tuscaloosa, Ala.—City voted $50,000 bonds for erection and equipment of municipal wharf.

Duluth, Minn.—Whitney Bros. contemplate constructing 500-ft. dock on lake shore at foot of Sutphin St.; cost $50,000.

Arkansas City, Kan.—Levee bonds for $800,000 will be hold Apr. 10 by H. Thane, secy. bd. dir. Southeast-Arkansas Levee Dist.

Gillham, Ark.—B. & A. Mining Co., Okmulgee and Gillham, contemplates constructing a hydroelectric plant.

Little Rock, Ark.—Contract will soon be let by Maj. E. S. Dent, U. S. engr., for bank protection near Arkansas River; cost $30,000.

California.—Following applications have been filed with State Water Supply Comn., San Francisco, for permission to divert water.

Ed Fletcher, 920 8th St., San Francisco, for 30 second ft. from tributaries of Santa Ysabel River for hydro-electric development, including concrete multiple-arch dam 110 ft. high and 800 ft. long, 5½ miles pipe line, to develop about 3000 hp; cost, $350,000.

Esperanza Land Co., 25 Broad St., New York, N. Y., for irrigating 7500 acre ft. in Colusa Co., to include earth dam with concrete core-wall, 35 ft. high and 1035 ft. long, and 1½ miles of main canal or pipe line; cost, $150,000.

Los Angeles, Cal.—Construction of four hydroelectric plants on Whitewater River and Snow Creek reported under consideration. Marcus Pluth, 111 W. 19th St., Los Angeles, reported interested.

Mendota, Cal.—P. D. Mason, 628 Mason Bldg., Los Angeles, contemplates constructing dam across Panoche Creek and canal to conduct the water 12 miles west for irrigating 640 acres.

Oroville, Cal.—Great Western Power Co., 14 Sansome St., San Francisco, contemplates constructing power plant three miles from Oroville, water to be taken from north fork of Feather River near mouth of west branch, including concrete-lined canal 15 miles long, 25 ft. wide, 14 ft. deep, plant to develop 75,000 kw.; cost, $6,000,000.

Summerland, Cal.—Southern Pacific RR. Co. (W. Hood, ch. engr., San Francisco) will apply to Bd. Supervisors for franchise to construct wharf extending 2200 ft. or less into the ocean from foot of Cary Pl.

Junction, Utah.—Plans being prepared for enlarging Koosharem Irrigation Co.'s dam in Otter Creek, which provides for increasing height of dam 20 ft. to total of 31 ft.; also increasing to 2000 ft. across top; when completed will hold 3858 acre ft. of water.

Lehi, Utah.—Application has been filed at the office of state engr. by W. F. Gurney, J. W. Wing, Jr., and A. J. Evans, Lehi, for 20 second ft. of water from the American Fork Creek and Deer Creek for power purposes, including construction of power plant, consisting of dam, headgates, pipe lines, one 18,000-ft., another 6000 ft., and a 7542-ft. channel is contemplated by the petitioners, to develop about 2000 hp. under a 1150-ft. head.

East Angus, Que.—Brompton Pulp & Paper Co. contemplates hydroelectric development, 3 miles below their pulp and paper plant at East Angus on the St. Francis River. Plans being prepared to develop additional 6000 hp.

Aylmer, Ont.—Council contemplates installing hydroelectric and power distribution system. E. A. Coughill, chmn. light com.

BIDS DESIRED

Boston, Mass.—See "Excavation, Drainage and Dredging."

Newark, N. J.—Until Mar. 20, by Joint Committee Bd. Freeholders of Essex Co (Thomas W. Smith, chmn.) and Hudson Co. (Francis P. Boland, chmn.) at Jersey City, for rebuilding fenders and rest piers of Clay St. Bridge between Clay St., Newark, and Central Ave., E. Newark.

Paterson, N. J.—Until Mar. 20 by J. A. Harkness, clk. bd. freeholders, Hackensack, for reconstructing of fenders of concrete and rest piers of Paterson Plank Road between Hudson and Bergen counties.

Astoria, O.—Reported desired until May 1, by Sanitary & Reclamation Comn., for 1,000,000 cu. yd. fill and 4000 lin. ft. bulkhead; cost about $200,000; G. T. McClnan, city engr.

Rochester, Minn.—Until Apr. 2 by A. F. Wright, city clk., for constructing hydraulic power plant and dam; separate bids for masonry, cement, etc.; advertised in this issue.

Rosedale, Kan.—Reported desired until Apr. 20 for diverting ditch and dam by tunneling through Greystone Heights about 1200 ft., outlet sewer and improvements to Turkey Creek flood waters, etc.; cost about $500,000. Harrington, Howard & Ash, Orear-Leslie Bldg., Kansas City, Mo., engrs.

Kansas City, Mo.—Until Apr. 9 by U. S. Engr. Office for constructing about 17,000 ft. standard revetment on Missouri River; advertised in this issue.

Seattle, Wash.—Reported desired until Mar. 27, by Co. Comrs. (N. M. Wardall, clk.), for constructing Vashon Heights wharf.

Reported desired by above until Apr. 2, for constructing Hertford wharf.

Toronto, Ont.—Until Apr. 2 by Chmn. Harbor Comrs., 50 Bay St., for constructing cribwork and concrete wall for harbor. E. L. Cousins, ch. engr. and mgr.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Clyde, N. Y.**—Contract awarded Lupfer & Remick, 592 Ellicott Sq., Buffalo, at $80,600, for constructing piers of overhead Barge Canal bridge at Clyde.

★**Pittsburgh, Pa.**—Contract awarded T. A. Gillespie Co., Westinghouse Bldg., Pittsburgh, at $126,091 for removing rock ledge and constructing guide wall below Lock No. 41, Ohio River.

★**Grand Rapids, Mich.**—Following are 4 bids opened Mar. 5 by U. S. Engr. for constructing concrete superstructure on pile substructure on north revetment at Grand Haven Harbor: Robert Love & Son, Muskegon, Mich., $24,197; N. P. Nelson, Muskegon, $27,189; Walsh Bros. & Blakeslee, Grand Haven, Mich., $28,173; Hackedorn Contg. Co., Indianapolis, Ind., $59,234.

Following are 4 lowest bids opened Mar. 8, same place as above, to repair pile substructure and concrete superstructure on north revetment of St. Joseph Harbor: H. M. Warner, St. Joseph, Mich., $16,245 (recommended for acceptance); Ira J. Lyons, St. Joseph, Mich., $20,227; Robert Love & Son, Muskegon, Mich., $24,579; N. P. Nelson, Muskegon, Mich., $28,647.

St. Louis, Mo.—Only bid opened Mar. 6 by Dept. Pub. Wks. for constructing hurdle dikes extending into Mississippi River was that of Seitz-Peterman Eng. Co., 3d National Bank Bldg., at $108,830. Chas. A. Cheney, secy. St. Louis Water Div.

Chico, Cal.—Dennis Murphy contemplates constructing hydroelectric plant, ditches and transmission lines in return for 25 yr. contract for lighting Chico. C. N. Burleson, engr.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK

Long Island City, N. Y.—Plans have been completed by the engineers of the Sewer Bureau of Queens for drainage system for North Beach, Woodside, Winfield and Jackson Heights; cost about $2,000,000.

North Tonawanda, N. Y.—Deepening the channel of Niagara River here to 23 ft. contemplated by the government; $300,000 available.

Jackson, Minn.—C. G. Johnson, Jackson; Henry Carlson, Heron Lake, and D. Crawford, Lakefield, selected as viewers on Judicial Ditch No. 41; estimated cost $700,000. P. D. McKellar, co. aud.

Chillicothe, Mo.—Surveys have been completed and plans are now being prepared for constructing drainage system for Medicine Creek Drainage Dist. Clarke Jacoby Eng. Co., 813 Shukert Bldg., engrs., Kansas City, Mo.

St. Louis, Mo.—Reported plans have been prepared by Julius Pitzman, mun. engr., Baxter Brown, ch. engr. Alton & Southern RR., Frank Jonah, ch. engr. of Frisco RR., and Edw. Flad and M. D. Holman, consult. engrs., for improving river front by reconstructing levee from Franklin Ave. to Spruce St., constructing quay wharf from Market to Spruce St., establishing several small parks, widening streets, laying additional railroad tracks, drainage of River des Pere, etc.; total cost about $62,000,000. Geo. R. Tansey, cl., City Plan Comn.

Galveston, Tex.—Surveys of harbor have been ordered by Bd. U. S. Army Engrs., to determine cost of procuring 33 ft. and enlarging to 35 ft.

Montrose, Col. — Colorado Co-operative Extension & Enlargement Co., recently incorporated, contemplates constructing ditch and irrigation system of 10,000 acres; cost about $80,000. F. B. Logan, Nucla, interested.

Anderson, Cal.—Anderson-Cotton Wood Irrigation Dist. will hold election to vote $513,546 bonds for completing irrigation system according to report of W. F. McClure, State Engr. A. R. W. Sperry, San Francisco, ch. engr.

California.—Following applications have been filed with State Water Comn. for permission to divert water for irrigation purposes:

Reno, Nev., City to divert water from Dig Creek, Sierra Co., for municipal purposes, proposed reservoir to store 20,000 acre ft.; cost $210,000.

Yolo County, Riverside Farms Co., San Francisco, to make five diversions of water from Sacramento River for irrigating 12,600 acres of rice land, estimated cost $83,000, to include 5 second ft. by 12 in. centrifugal pump with 50-hp. motor, 38 second ft. by 20-in. centrifugal pump with 125-hp. motor, and 20-in. centrifugal pump with 75hp. motor; 180 second ft. at Rough and Ready pumping station, 35 second ft. by 26-in. centrifugal pump with 200-hp. motor, and 8 second ft. by 14-in. pump and 50-hp. motor.

W. P. Boone, Berkeley, for 20,000 ft. water per second from King River to irrigate 1,200,000 acres in Fresno, Tulare and Kings Counties; cost of project $9,000,000.

J. R. Ruddle, Snelling, from Merced River to irrigate 1926 acres; cost $10,000.

Blevins Mallon Ditch Co., from Sacramento River, to irrigate 4500 acres; cost $80,000.

California.—Chas. W. Landis, San Francisco, for 2000 second ft. of water from Mokelumne River, 6 mi. north of Lancha Plana, for irrigating 100,000 acres, to include construction of multiple arch dam to impound 120,000 acre ft. in Rancho Arroyo Seco, and construct canal 5 mi. long to carry water from point of diversion to reservoir; cost $500,000.

San Diego, Cal.—Contracts will soon be let by Major G. W. Pillsbury, U. S. Engrs. Central Bldg., Los Angeles, for dredging channel parallel to municipal pier for which $220,000 is available as soon as formal transfer of 500 acre site for marine base is made. Site had been donated by city to the Federal government.

BIDS DESIRED

Boston, Mass.—Until Mar. 27 by Capt. W. W. Hamilton, acting quartermaster, Fort Warren, for excavating about 16,000 cu. yd. near wharf at Ft. Standish and constructing 320-ton stone jetty.

Racine, Wis.—Following are totals and unit figures of bids opened Mar. 9, by U. S. Engrs. Office, Milwaukee, for constructing reinforced concrete caisson breakwater, pile pier, removing old timber crib pier, moving timber cribs and dredging at Racine Harbor: (a) Greiling Bros., Green Bay, Wis., $150,471; (b) Great Lakes Dredge & Dock Co., 491 Canal St., Milwaukee, $173,991; (c) Edw. E. Gillen Co., Wells Bldg., Milwaukee, $199,561.

	(a)	(b)	(c)
6,500 cu. yds. trench excavations, scow measurement	$0.50	$0.50	$0.60
5,000 tons stone for sub foundation, per short ton	1.65	1.75	1.80
17,500 tons stone for main foundations, riprap, pier and crib filling, per short ton	1.90	2.35	2.20
Sinking 13 caissons, ea	250.00	300.00	350.00
3,200 cu. yds. sand filling in caissons	0.50	0.60	1.00
115 cu. yds. concrete filling in caissons	8.00	8.00	8.50
1,360 cu. yds. concrete superstructure on caissons	8.00	10.00	9.80
Driving 19,600 lin. ft. round piles	0.20	0.30	0.30
Making and driving 549,000 ft. b m. sheet piles	19.00	25.00	28.00
Framing and securing 147,000 ft. b. m. timber	19.00	40.00	53.00
1,375 cu. yds. concrete superstructure on pile pier	9.00	11.00	11.50
80 cu. yds. concrete slab walk	12.00	15.00	15.00
200 cu. yds. concrete paving on pile pier	10.00	9.00	15.00
Removing 1,162 lin. ft. old pier	16.00	18.00	25.00
Moving 2 cribs, north breakwater, ea	10,000.00	9,000.00	14,000.00
Dredging 100,000 cu. yds., scow measurement	0.18	0.18	0.20

Brooklyn, N. Y.—Until Mar. 22 by Park Bd. for dredging and depositing sand, gravel, etc., in Dyker Beach Park; security $30,000.

Savannah, Ga.—Until Apr. 14, by U. S. Engrs. office, for dredging 21 ft. channel at harbor here; advertised in this issue.

Pocahontas, La.—By W. C. Wood, Co. aud. for constructing ditches in Drain Dist. No. New 21, 14 and 49; advertised in this issue.

Danville, Ill.—Until Mar. 29 (extension of time) by Maple Grove Drain. Dist. for constructing ditches; work includes about 99,887 ft. of from 6 to 30-in. tile, 6334 cu. yd. excavation, together with sewer pipe, catch basins and concrete bulkhead or outlet wall, and also for making crossings under C. C. C. & St. L. RR. tracks; also for furnishing 144 Class D2 c. i. pipe from 10 to 20 in., etc. Clark & Hutton, attys. for comrs., 401-403 Baum Bldg., Danville.

Onawa, Ia.—Until Mar. 31 by Monona-Harrison Drain. Dist. No. 1 for constructing main ditch 17 miles long, 50 to 70 ft. bottom, average depth 20 ft., and sects. (separate bid) about 7,010,000 cu. yd. Roy N. Towl, dist. engr., First National Bank Bldg., Omaha, Neb.

Redwood Falls, Minn.—Until Mar. 30 by L. P. Larson, co. aud., for constructing Co. Ditch No. 24; work includes about 70,700 ft. of 6 to 24 ft. bottom in Sect. 1, 7700 ft. of 6 ft. bottom in Sect. 2, and 16,000 ft. bottom in Sect. 3; cost about $84,621.

Until Mar. 31, by above, for constructing Co. Ditch No. 22; work includes about 93,300 ft. of 6 to 12 in. tile in all of 9 sections; cost about $12,547.

Lincoln, Neb.—Until Apr. 4 by Sanitary Dist. No. 1 (Peterson & Devoe, attys., Bankers Life Bldg.) for cleaning and deepening portion of channel of Salt Creek; certified check for $500 to accompany bid.

Eureka, Ark.—See "Roads and Paving."

Wynne, Ark.—Reported desired until Mar. 21 by Co. Clk. for constructing drains and ditches for Brushy Lake Bayou Drain. Dist. No. 1; work includes about 838,800 yd. excavation and digging on main ditch and 4 laterals. Newsom Eng. Co., Wynne, Ark.

Sallisaw, Okla.—Until Apr. 5 by Co. Comrs. for constructing drainage ditches in Sequoyah Drain. Dist. No. 1, including about 13 mi. of canals, 10 to 32 ft. bottom, 620,000 cu. yd. excavation. Winters & Dove, Fort Smith, Ark., engrs.

Enumclaw, Wash.—Until about May 1 by Drain. Dist. No. 6 (E. J. Bengstron, chmn.) for constructing drainage system on 2000 acres of land; also removal of about 120,000 cu. yd. material; cost about $45,000. C. H. Kiel, Central Bldg., Seattle, engr.

PRICES AND LETTINGS

★*Indicates award of contract.*

New York, N. Y.—Following are bids opened Mar. 9 by Comr. of Docks for furnishing material and dredging 110,000 cu. yd. North River, Manhattan Boro., and 20,000 cu. yd. East and Harlem Rivers, Boros. of Manhattan, Bronx, Brooklyn, Queens and Richmond: Coastwise Dredg. Co., 17 Battery Pl., 35 cts. per cu. yd. and $1 per cu. yd. respectively. W. C. Ross, secy. to comr.

★**New York, N. Y.**—Contract awarded by Col. Harry Taylor, Army Bldg., to Jas. Stewart & Co., 30 Church St., at $358,600 for removing rock and dredging in Hudson River.

Baltimore, Md.—Following are bids opened by U. S. Engrs., Custom House, Mar. 8, for dredging in Elk River, about 36,000 cu. yd.: Maryland Dredg. & Constr. Co., 1515 Fidelity Bldg., Baltimore, 29½ cts. (recommended for acceptance); Dorsey & Miller Co., 31½ cents; Delaware Dredg. Co., Real Estate Trust Bldg., 38 cts. Price given per cu. yd.

★**Jacksonville, Fla.**—Contract awarded to Seaboard Dredg. Co., Jacksonville, Fla., at $13,750 for dredging and rock removal in St. John's River.

★**New Iberia, La.**—Contract awarded by county to R. H. & G. A. McWilliams, 1122 Exchange Bldg., Memphis, Tenn., at $31,000 for drainage work.

★**Senatobia, Miss.**—Contract awarded by Arkabutla Creek Drainage Dist., Mar. 7, to McGuire Bros. & Caldwell, Obion, Tenn., at 7 cts. per cu. yd. for 1,053,000 cu. yd. ditch excavation; two floating dredges will be installed on the work. Morgan Eng. Co., Goodwyn Institute Bldg., Memphis, Tenn., engrs.

★**Decatur, Ind.**—Contract awarded Cole Bros, Monroe, La., at $11,013, for constructing Smith Shoemaker drain.

★**Cleveland, O.**—Contract awarded Great Lakes Dredge & Dock Co., Williamson Bldg., Cleveland, at about $40,000 for dredging river.

★**Belvidere, Ill.** — Contract awarded Streator Drain Tile Co. for furnishing tile for Coon Creek Drainage Dist. at $26,300; R. H. & G. A. McWilliams Co., 332 S. Michigan Ave., Chicago, awarded contract for open ditch work in connection with drainage at $27,000.

Austin, Minn.—Lowest bid received by county fo rconstructing Ditch No. 1 was that of Minnesota Pipe & Pile Co., Mankato, at $13,680.

★**Crookston, Minn.**—Contract awarded Union Drainage Co., Crookston, at $22,783 for constructing Co. Ditch No. 109.

★**Grand Rapids, Minn.**—Contract awarded Lawrence Constr. Co., at $18,000, for constructing County Ditch No. 7.

★**Jackson, Minn.**—Contracts awarded by County for constructing following Judicial Ditches: Ditch No. 48 to Rydeen & Rogge, Granada, at $63,300; Ditch No. 53, Thompson & Anderson, Somers, Ia., $24,500; Ditch No. 56, G. F. Wideman, Webster City, $37,200; Ditch No. 59, John Christenson, Eagle Grove, $17,885; Ditch No. 60, Krueger & Neilson, Alpha, $35,500; Ditch No. 62, R. L. Cox, Webster City, $12,954; Ditches No. 63, 64 and 45 rejected.

★**Redwood Falls, Minn.**—Contract awarded Frederick and Barnard, Minneapolis, for 299,059 cu. yd. of ditch to be dug with floater dredge at 11¾ cts. per cu. yd. B. J. Reynolds, engr., Redwood Falls.

★**Slayton, Minn.**—Contracts awarded by E. V. O'Brien, co. aud. (bids opened Feb. 28) for constructing following ditches: Ditch No. 11, to Hanson & Ostgaard, Hadley, at $13,100; Ditch No. 51, Hunnes, Hagstad & Ford, Slayton, $11,785; Ditch No. 12, Albert Telford, Slayton, $12,302, open work; Peterson & Jensen, Vesta, $50,000, for aile; Ditch No. 12A, Sorrensen & Fouser, Slayton, $48,860; Ditch No. 12B, Lewis Sorrensen, Turrin, Ia., $39,300; Ditch No. 23, Redding & Smeage, Windom, $34,697; Ditch No. 6, Pearson & Ast, Lake Wilson, $15,750

★**Worthington, Minn.**—Contracts awarded for constructing following ditches: Ditch No. 5, P. L. Rivard, Worthington, $12,999; Ditch No. 6, Schoell Bros., Worthington, $10,994.

Otis Orchard, Wash.—Following are lowest bids opened for installation of over 150,000 ft. of pipe for irrigation system: Hans Pederson, Alaska Bldg., Seattle, at $65,096 for clay pipe; J. H. Fletcher, care of Sawyer Bros., White Bldg., Seattle, at $63,771 for concrete pipe.

★**Modesto, Cal.**—Contract awarded by Waterford Irrigation Dist. for constructing canals to F. C. McIntyre, Stockton, at $11,247.

★**Waterford, Cal.**—Contract awarded F. C. McIntyre, Stockton, at $11,247, for constructing drainage ditch 8 mi. long, requiring 86,800 cu. yd. excav.

TUNNELS AND SUBWAYS

PROPOSED WORK

Rochester, N. Y.—Plans have been approved by the Pub. Serv. Comn. for constructing subway at the Brown St. crossing of N. Y. C. & B. R. & P. Railroads, accordin gto report of Mayor H. H. Edgerton.

MISCELLANEOUS

PROPOSED WORK

Park Improvement—Boston, Mass.—City contemplates improving parks and playgrounds; cost $200,000. Address Park and Recreation Dept., 33 Beacon St.

Park—Albany, N. Y.—Common Council has passed ordinance appropriating $30,000 for acquisition of park site on Walter St., North Albany; also passed ordinance appropriating $130,000 for extension and river front improvements south of Madison Ave., and enlarging area of Riverside Park east of Broadway.

Park—Atlantic City, N. J.—State Dept. of Conservation and Development, Trenton, has been asked by residents to build public park on the meadows. J. E. Eddishow, Atlantic City, interested.

Incinerator—Bayonne, N. J.—City Comn. contemplates constructing garbage incinerator. Pierre Garvin, mayor.

Park system—Newark, N. J.—Legislature considering bill providing for appropriation of $400,000 for extension to Essex County Park system.

Parks—Harrisburg, Pa.—State Bd. Pub. Grounds and Bldgs. considering tentative plans for Capitol Park Extension work as suggested by Warren H. Manning, 1101 Trumbull Bldg., Boston, and A. W. Brunner, archt., 101 Park Ave., New York, N. Y. Plans include changes in present park, creation of gardens, courts and lawns to be surrounded by group of public buildings adapted for use of state. Preliminary appropriation will be asked from Legislature.

Transmission Line — Scranton, Pa. — Scranton & Binghamton Electric Ry. Co. contemplates erecting 66,000-volt electric transmission line from the present terminal in Tiany to Binghamton during the present year.

Transmission Line—Endeavor, Wis.—Plans being prepared by Endeavor Light & Power Co. (Wm. H. Burwell, mgr.) for erecting electric transmission line to Packwaukee, a distance of 5 miles.

Transmission Line—Indianola, Neb.—Election to be held April 3 to issue $14,000 bonds for constructing an electric-lighting system and erecting transmission line, 12 miles long.

BIDS DESIRED

Coal—Albany, N. Y.—Until Apr. 9, by U. S. Engr.'s office, Army Bldg., 39 Whitehall St., New York City, for furnishing and delivering about 8,500 tons bituminous coal here; advertised in this issue.

Fill—Elizabeth, N. J.—Until Mar. 29 by Bd. Pub. Wks. for about 20,000 cu. yd. of earth fill for proposed roadway across Elizabeth River. Thos. E. Collins, city engr.

Auto Distributors—Philadelphia, Pa.—Until Mar. 20 by Bureau Supplies, for auto distributors for surfacing materials; cost about $60,000.

Cranes—Philadelphia, Pa.—Until Apr. 2 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Washington, D. C., for one 150-ton, two 15-ton, one 20-ton, and one 5-ton electric traveling bridge cranes at navy yard here.

Garbage Disposal—Sharpsburg, Pa.—Until Mar. 26 by T. J. McGivern, boro. clk., for collecting, hauling and disposal of garbage.

Cranes—Washington, D. C.—Until Apr. 9 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., for 2 electrically-operated locomotive jib cranes of 50 gross tons capacity at Norfolk, Va., and Philadelphia, Pa., navy yards.

Engineering Supplies—Seattle, Wash.—Until Mar. 22 by Purch. Agt., Alaskan Eng'g Comn., here, for Alaskan Circ. No. 248 for furnishing miscellaneous engineering supplies.

PRICES AND LETTINGS

★*Indicates award of contract.*

Charleston, S. C.—Following are four lowest bids opened Feb. 6, for constructing incinerator, capacity 40 tons per 24 hrs.: Nye Odorless Crematory Co., Macon, Ga., $12,000; Griscom-Russell Co., 90 West St., New York, N. Y., $16,165; Borge Incinerator Corp., Flatiron Bldg., New York, N. Y., $24,577; Decarie Incinerator Co., Minneapolis, Minn., $34,500. J. H. Dingle, city engr.

Riprap—Memphis, Tenn.—Following bid opened Feb. 28 by Mississippi River Comn., Memphis, for 12,000 cu. yd. and loading same was that of Arnold Stone Co., Neely's Landing, Mo., at $1 per cu. yd.

Horses and Props—Louisville, Ky.—Following are bids opened Mar. 5 by U. S. Engrs. for furnishing and delivering horses and props for navigable pass, Dam 43, Ohio River, estimated weight 547,200 lb.: American Car & Foundry Co., Jeffersonville, Ind., $43,721; American Bridge Co., Union Trust Bldg., Cincinnati, $35,240.

Cement — Sacramento, Cal.—Following bids opened by Bd. Superv. for furnishing 175,000 bbl. cement for highway work: Standard Portland Cement Co., Crocker Bldg.; Pacific Portland Cement Co., Pacific Bldg.; Henry Cowell Lime & Cement Co., 2 Market St., bid from $2.51 to $2.62 per bbl. Bidders all of San Francisco.

Proposals

For Proposals Advertised See Pages 50a, 51, 52, 53, 54, 55

WATER WORKS AND SEWERAGE SYSTEMS

Bids Close.		See Eng. Record.
Mar. 20.	Johnston, Pa. Adv. Mar. 3 to Mar. 17.	Mar. 3
Mar. 20.	Sioux Falls, S. D.	Mar. 10
Mar. 20.	Deshler, O.	Mar. 10
Mar. 20.	Paterson, N. J.	Mar. 17
Mar. 21.	Brawley, Cal.	Mar. 3
Mar. 21.	Lawrence, Kan. Adv. Mar. 3, 10.	Mar. 3
Mar. 21.	Eudora Ark.	Mar. 10
Mar. 21.	New York, N. Y.	Mar. 17
Mar. 22.	Canton, N. Y. Adv. Mar. 3 to Mar. 17.	Mar. 3
Mar. 22.	Philadelphia, Pa. Adv. Mar. 10, Mar. 17.	Mar. 10
Mar. 22.	West Minneapolis (Hopkins P. O.), Minn.	Mar. 10
Mar. 22.	Philadelphia, Pa.	Mar. 17
Mar. 23.	Dadeville, Ala.	Mar. 3
Mar. 23.	Garfield, N. J. Adv. Mar. 10.	Mar. 10
Mar. 23.	New York, N. Y.	Mar. 17
Mar. 24.	Norwalk, Conn. Adv. Mar. 3.	Mar. 3
Mar. 26.	Nedosha, Kan.	Mar. 10
Mar. 26.	Ann Arbor, Mich. Adv. Mar. 10, Mar. 17.	Mar. 10
Mar. 26.	St. Charles, Ill. Adv. Mar. 17.	Mar. 17
Mar. 26.	New Orleans, La.	Mar. 17
Mar. 26.	Stone Harbor, N. J.	Mar. 17
Mar. 26.	St. Paul, Minn.	Mar. 17
Mar. 27.	Hampton, Ia.	Mar. 17
Mar. 29.	Murray, Ky.	Mar. 17
Mar. 30.	Ripon, Wis.	Mar. 10
Apr. 1.	Gibson, Ill.	Dec. 23
Apr. 1.	Mt. Vernon, O.	Dec. 23
Apr. 1.	Hillsboro, Ill.	Jan. 27
Apr. 1.	Rocky River, O.	Mar. 17
Apr. 2.	Big Sandy, Mont.	Mar. 17
Apr. 3.	Covina, Cal.	Mar. 17
Apr. 3.	Scottsbluff, Neb. Adv. Mar. 17.	Mar. 17
Apr. 9.	Clear Lake, S. D.	Mar. 10
	Granite City, Ill. Adv. Mar. 17.	Mar. 10
Apr. 13.	Astoria, Ore.	Mar. 17
Apr. 13.	Wauston, Wis.	Mar. 17
May 1.	Monaca, Pa.	Mar. 17

STRUCTURAL STEEL WORK

Mar. 20.	Blair, Neb.	Mar. 10
Mar. 20.	Windsor, Ont.	Mar. 10
Mar. 20.	Wausau, Wis.	Mar. 17
Mar. 21.	Erie, Kan.	Mar. 17
Mar. 22.	Blue Island, Ill.	Mar. 17
Mar. 25.	St. Ferdinand d'Halifax	Mar. 17
Mar. 26.	Everett, Wash.	Mar. 17
Mar. 26.	White Plains, N. Y.	Mar. 17
Mar. 27.	Fort Riley, Kan. Adv. Mar. 3 to Mar. 17.	Mar. 3
Mar. 27.	Somerset, Ky.	Mar. 17
Mar. 27.	Somerville, N. J.	Mar. 17
Apr. 3.	Brookeville, Ky.	Mar. 17
Apr. 3.	Sisseston, S. D.	Mar. 17
Apr. 3.	Britton, N. D.	Mar. 10

REINFORCED CONCRETE

Mar. 20.	Geneva, N. Y. Adv. Feb. 17 to Mar. 10.	Feb. 17
Mar. 20.	Ft. Wayne, Ind.	Mar. 3
Mar. 21.	Princeton, Ill.	Mar. 17
Mar. 24.	Sidney, O.	Mar. 10
Mar. 24.	Longport, N. J.	Mar. 10
Mar. 24.	Lawrence, Kan.	Mar. 17
Mar. 26.	Hazard, Ky.	Feb. 10
Mar. 27.	Junction City, Kan.	Mar. 17
Mar. 28.	Kansas City, Kan.	Mar. 17
Mar. 29.	Reading, Pa.	Mar. 17
Mar. 31.	Forrest City, Ark. Adv. Mar. 10.	Mar. 10
Apr. 7.	Pine Bluff, Ark.	Mar. 17
Apr. 16.	Washington, D. C. Adv. Mar. 17.	Mar. 17
Apr. 17.	Lansing, Mich. Adv. Mar. 17.	Mar. 17

ROADS AND PAVING

Mar. 19.	Albany, N. Y. Adv. Mar. 3 to Mar. 17.	Mar. 3
Mar. 20.	Olive Hull, Ky.	Feb. 10
Mar. 20.	South Orange, N. J.	Mar. 3
Mar. 20.	Fresno, Cal.	Mar. 10
Mar. 20.	Palatka, Fla.	Mar. 10
Mar. 20.	Cherokee, Ia.	Mar. 17
Mar. 20.	Omaha, Neb.	Mar. 17
Mar. 20.	Jacksonville, Tex.	Mar. 17
Mar. 20.	Berwyn, Ill.	Mar. 17
Mar. 20.	Plymouth, Mich. Adv. Mar. 17.	Mar. 17
Mar. 20.	Philadelphia, Pa.	Mar. 17
Mar. 20.	Pittsburgh, Pa.	Mar. 17
Mar. 20.	Northampton, Mass.	Mar. 17
Mar. 21.	Cleveland, Ohio	Mar. 10
Mar. 21.	Warren, Minn.	Mar. 17
Mar. 21.	Cincinnati, O.	Mar. 17
Mar. 21.	Brooklyn, N. Y.	Mar. 17
Mar. 22.	Ebensburg, Pa.	Mar. 10
Mar. 22.	Roanoke, Va.	Mar. 10
Mar. 22.	Eureka, Ark.	Mar. 17
Mar. 22.	Indiana	Mar. 17
Mar. 23.	Jamestown, Ky	Feb. 10
Mar. 23.	Falls City, Neb.	Mar. 17
Mar. 23.	Sioux Falls, S. D.	Mar. 10
Mar. 23.	Portsmouth, O.	Mar. 17
Mar. 24.	Wayland, Ky.	Feb. 10
Mar. 24.	Hyden, Ky.	Feb. 10
Mar. 24.	Maplewood, N. J.	Mar. 10
Mar. 24.	Racine, Wis.	Mar. 20
Mar. 24.	Jacksonville, Fla.	Mar. 10
Mar. 24.	Kansas, Ill.	Mar. 17
Mar. 24.	Indiana	Mar. 17
Mar. 25.	Albion, Ind.	Mar. 3
Mar. 26.	Los Angeles, Cal.	Mar. 3
Mar. 26.	Panama City, Fla.	Mar. 10
Mar. 26.	Plymouth, Wis.	Mar. 10
Mar. 26.	Everett, Wash.	Mar. 10
Mar. 26.	St. Charles, Ill. Adv. Mar. 17.	Mar. 17
Mar. 26.	Elizabeth, Pa.	Mar. 17
Mar. 26.	New York, N. Y.	Mar. 17
Mar. 27.	Nogales, Ariz.	Mar. 3
Mar. 27.	Easton, Md.	Mar. 10
Mar. 27.	Nutley, N. J.	Mar. 10
Mar. 27.	Baltimore, Md.	Mar. 17
Mar. 28.	Columbus, O.	Mar. 10
Mar. 28.	Lorain, O.	Mar. 17
Mar. 28.	Norfolk, Va. Adv. Mar. 17.	Mar. 17
Mar. 28.	Pomeroy, Wash.	Mar. 17
Mar. 28.	Terrel, Tex.	Mar. 17
Mar. 29.	Pennsboro, W. Va.	Feb. 17
Mar. 29.	Belleville, N. J. Adv. Mar. 10, Mar. 17.	Mar. 10
Mar. 29.	Jackson, Mich. Adv. Mar. 17.	Mar. 17
Mar. 30.	Canton, Ill.	Jan. 20
Mar. 30.	Naperville, Ill.	Jan. 27
Mar. 30.	New Eagle, Pa.	Mar. 10
Mar. 30.	Richland Center, Wis.	Mar. 17
Mar. 30.	Centerville, Tenn.	Mar. 17
Mar. 30.	Davenport, Wash.	Mar. 17
Apr. 1.	Virginia, Ill.	Jan. 13
Apr. 1.	East Rochester, N. Y.	Feb. 17
Apr. 1.	Helena, Mont.	Mar. 17
Apr. 1.	Polo, Ill.	Mar. 17
Apr. 1.	Fresno, Cal.	Mar. 17
Apr. 2.	Fayetteville, W. Va. Adv. Mar. 10.	Mar. 10
Apr. 2.	Yreka, Cal.	Mar. 17
Apr. 2.	Merced, Cal.	Mar. 17
Apr. 2.	Elizabeth, N. J.	Mar. 17
Apr. 2.	Indiana	Mar. 17
Apr. 3.	Brooksville, Ky.	Mar. 10
Apr. 3.	Madisonville, Wis.	Jan. 27
Apr. 3.	West Orange, N. J.	Mar. 17
Apr. 5.	Plymouth, Ind.	Mar. 17
Apr. 3.	Indiana	Mar. 17
Apr. 7.	Layton, N. J. Adv. Mar. 17.	Mar. 17
Apr. 9.	Plainfield, N. J. Adv. Mar. 17.	Mar. 17
Apr. 9.	Apollo, Pa. Adv. Mar. 17.	Mar. 17
Apr. 12.	Whitesburg, Ky.	Mar. 17
Apr. 12.	Greenville, Miss. Adv. Mar. 17.	Mar. 17

RAILROAD

Mar. 27.	Philadelphia, Pa.	Mar. 17

INDUSTRIAL PLANTS AND WAREHOUSES

Mar. 24.	Enderlin, N. D.	Mar. 10
Apr. 2.	Philadelphia, Pa.	Mar. 17

BUILDINGS
Public and Private

Mar. 20.	Reading, Pa.	Mar. 17
Mar. 20.	Albany, N. Y.	Mar. 3
Mar. 20.	Detroit, Mich.	Mar. 10
Mar. 20.	Tropica, Cal.	Mar. 3
Mar. 20.	Detroit, Mich.	Mar. 10
Mar. 20.	Mora, Minn.	Mar. 17
Mar. 20.	Galion, O.	Mar. 17
Mar. 21.	New Boston, O.	Mar. 17
Mar. 21.	New York, N. Y.	Mar. 3
Mar. 21.	Martins Ferry, O. Adv. Feb. 17, 24.	Feb. 17
Mar. 21.	Columbus Center, O.	Mar. 10
Mar. 21.	Winnebago, Minn.	Mar. 10
Mar. 21.	Burrillville, R. I.	Mar. 17
Mar. 21.	Philadelphia, Pa.	Mar. 17
Mar. 22.	Harrisburg, Pa.	Mar. 17
Mar. 22.	New Brighton, Pa.	Mar. 17
Mar. 23.	Holley Springs, Miss.	Feb. 24
Mar. 26.	Crookston, Minn.	Mar. 17
Mar. 26.	Ellsworth, Kan.	Mar. 17
Mar. 26.	Monmouth, Ill.	Mar. 17
Mar. 27.	Philadelphia, Pa. Adv. Mar. 10, Mar. 17.	Mar. 10
Mar. 27.	Platesville, Wis.	Mar. 10
Mar. 29.	Coshocton, O.	Feb. 24
Mar. 29.	Charleston, S. C.	Mar. 10
Mar. 30.	Reading, Mass	Mar. 10
Mar. 30.	Cape May Court House, N. J.	Mar. 17
Apr. 1.	Lakes Andes, S. D.	Mar. 10
Apr. 2.	Troy, O.	Mar. 17
Apr. 2.	Lima, O.	Mar. 17
Apr. 2.	Syracuse, N. Y. Adv. Mar. 17.	Mar. 17
Apr. 2.	Grand Mound, Ia.	Mar. 17
Apr. 2.	Charleston, W. Va.	Mar. 17
Apr. 2.	Stockton, Cal.	Mar. 17
Apr. 2.	Fresno, Cal.	Mar. 17
Apr. 3.	Greenville, S. C.	Mar. 10
Apr. 3.	Wooster, Ohio.	Mar. 10
Apr. 4.	Chariton, Ia.	Mar. 10
Apr. 6.	Rocky River, O.	Mar. 17
Apr. 9.	Alexandria, La.	Mar. 10
Apr. 10.	Sullivan, Ind.	Feb. 24
Apr. 10.	Ft. Wayne, Ind.	Mar. 17
Apr. 10.	Cameron, Tex.	Mar. 10
Apr. 10.	Sullivan, Ind.	Mar. 17
Apr. 11.	Lancaster, S. C. Adv. Mar. 10, 17.	Mar. 10
Apr. 12	Wahoo, Neb. Adv. Mar. 10, Mar. 17.	Mar. 10
Apr. 13.	Troy, N. Y. Adv. Mar. 17.	Mar. 17
Apr. 14.	Burlington, Wis.	Mar. 10
Apr. 16.	Chester, Pa.	Mar. 17
Apr. 18.	East Orange, N. J.	Mar. 17
Apr. 26.	Fremont, Ohio.	Mar. 10
May. 1.	Minneapolis, Minn.	Nov. 25

FOUNDATIONS, PIERS AND DAMS

Mar. 20.	Newark, N. J.	Mar. 10
Mar 28.	Paterson, N. J.	Mar. 17
Apr. 2.	Rochester, Minn. Adv. Mar. 17.	Mar. 17
Apr. 2.	Toronto, Ont.	Mar. 17
Apr. 9.	Kansas City, Mo. Adv. Mar. 17.	Mar. 17
Apr. 20.	Rosedale, Kan.	Mar. 17

TUNNELS AND SUBWAYS

Mar. 26.	Los Angeles, Cal.	Feb. 24
Apr. 3.	Philadelphia, Pa. Adv. Mar. 10, Mar. 17.	Mar. 10

EXCAVATION, DREDGING AND DRAINAGE

Mar. 19.	Wilmington, Del. Adv. Feb. 24 to Mar. 17.	Feb. 24
Mar. 20.	Vallejo, Cal.	Feb. 10
Mar. 21.	Bridgeport, Conn. Adv. Mar. 10.	Mar. 10
Mar. 21.	Wynne, Ark.	Mar. 17
Mar. 22.	Morganfield, Ky. Adv. Mar. 3, 10.	Mar. 3
Mar. 22.	Brooklyn, N. Y.	Mar. 17
Mar. 23.	Hartford, Conn.	Feb. 24
Mar. 24.	Greenfield, Ind.	Mar. 10
Mar. 26.	Mason City, Ia.	Mar. 3
Mar. 27.	San Francisco, Cal.	Mar. 10
Mar. 27.	Boston, Mass.	Mar. 17
Mar. 28.	New York, N. Y. Adv. Mar. 3, Mar. 17.	Mar. 3
Mar. 28.	Columbia City, Ind.	Mar. 3
Mar. 29.	Great Falls, Mont. Adv. Mar. 3.	Mar. 3
Mar. 29.	Danville, Ill.	Mar. 17
Mar. 30.	Redwood Falls, Minn.	Mar. 17
Mar. 31.	Onawa, Ia.	Mar. 17
Mar. 31.	Redwood Falls, Minn.	Mar. 17
May 1.	Astoria, Ore.	Mar. 17
Apr. 2.	Wilmington, Del.	Mar. 10
Apr. 4.	Lincoln, Neb.	Mar. 17
Apr. 5.	Sallisaw, Okla.	Mar. 17
Apr. 5.	St. Ignatius, Mont.	Mar. 10
Apr. 14.	Savannah, Ga. Adv. Mar. 17.	Mar. 17
———	Pocahontas, Ia. Adv. Mar. 17.	Mar. 17

MISCELLANEOUS

Mar. 20.	Auto Distributors, Philadelphia, Pa.	Mar. 17
Mar. 22.	Engine Supplies, Seattle, Wash.	Mar. 17
Mar. 26.	Cement—Leavenworth, Kan.	Mar. 10
Mar. 26.	Garbage, Sharpsburg, Pa.	Mar. 17
Mar. 29.	Fill, Elizabeth, N. J.	Mar. 17
Apr. 2.	Cranes, Philadelphia, Pa.	Mar. 17
Apr. 4.	Excavators—Denver, Col.	Mar. 10
Apr. 9.	Coal—Albany, N. Y. Adv. Mar. 17.	Mar. 17
Apr. 9.	Cranes, Washington, D. C.	Mar 17
Apr. 16.	Riprap, Detroit, Mich. Adv. Mar. 10.	Mar. 10

Railway Strike Averted, War Imminent

Price Advances May Continue—Car Shortage Improving—Bond Market Less Active and Fewer New Securities Issued

WITH the threatened railway strike averted and the country on the verge of being drawn into the war, it is becoming evident that, while there may be no immediate effect on the construction program for 1917, less money may be available for such work, and higher prices may prevail. Partly as a result of the international situation, making it likely that a large amount of money would be required by the Government, listings and issues of new securities for the first two months of the year have already shown large declines from the figures for 1916. As has been noted previously by this journal, factors were already at work to make a less active market than that of last year for public improvement bonds.

Extraordinary work is being done by the railroads to relieve the car shortage, and doubtless scattered price advances due to local shortages of construction materials will soon be checked. The lumber industry is still severely handicapped in shipping products which must be loaded in box cars, though open cars for moving the grades of timber required on heavy construction work are becoming more plentiful. As to whether further price advances will be checked by the entry of this country into the war, it would be difficult to say at present. While construction might be checked on local improvements, it is liable to receive an impetus in the transportation and industrial fields. Although it is likely that a restriction of profits on materials furnished to the Government would prevent further increase in the cost of production, the withdrawal from the market of large quantities of goods and materials to supply Government wants might cause shortages which would result in further price increases to the public. Lumber and steel would be the principal construction materials most likely to be affected in this way, and it certainly seems unlikely that steel prices will decline. Indeed, notable advances, especially in materials for ship construction, have already taken place in the present month. It might be expected also that if this country should decide to take an active part in the war, the labor situation would be adversely affected before the close of the present construction season.

Waterworks and Sewers

Bids have been received at Madison, Ill., for constructing a sewer system to cost $170,000. Greenwich, Ohio, will receive bids April 10 for constructing a pumping station and intake and enlarging its reservoir. A contract will soon be awarded for constructing a $100,000 reservoir at Nazareth, Pa. The construction of $3,500,000 sewage disposal plant for the Chicago stock yards has been recommended. New bids are to be asked for sewer construction costing $160,000 at Grand Rapids, Mich. An expenditure of $8,500,000 for extending the sewer and water systems at Detroit has been recommended. Engineers have been retained to prepare plans and supervise the construction of sewer and water extensions for Globe, Ariz., to cost $750,000.

Buildings

Building construction noted in this issue includes the following items:

	Kind	Cost
Contract awarded:		
Jacksonville, Fla.	Railway station	$750,000
Proposed work:		
Newport News, Va.	Shipbuilding plant	2,500,000
New York, N. Y.	Apartment	300,000
Dallas, Tex.	Bank building	800,000
Port Arthur, Tex.	Lighting plant	400,000
Long Beach, Cal.	City hall	300,000

Roads and Paving

Bids are desired in New York state at Fairmont, W. Va., for a large amount of highway work. In addition, the following highway and paving work is noted this week:

	Kind	Cost
Contracts awarded:		
Baltimore, Md.	Concrete	$128,000
Lake Charles, La.	Gravel	125,000
Bids opened:		
Brooklyn, N. Y.	Asphalt	148,000
Douglas, Ariz.	Bituminous	320,000
Proposed work:		
Gaffney, S. C.	Bonds voted	225,000
Thomasville, Ga.	Paving	200,000
Mountain City, Tenn.	Bonds voted	200,000
Indianola, Miss.	Bonds sold	200,000
Greensville, Miss.	Concrete	950,000

Miscellaneous Headings

The Government contract for dredging and rock-removal in the Hudson River, New York harbor, has been awarded at $358,000. A low bid of $220,000 was received for lock gates to be constructed for the Government near Detroit. An additional city pier under consideration at Philadelphia would cost $400,000. Harbor improvements amounting to $2,000,000 are contemplated at Savannah, Ga. The construction of ore docks to cost $5,000,000 is contemplated at Conneaut, Ohio. A transmission line which will cost $300,000 is being surveyed near Salt Lake City, Utah. Permits have been applied for in California to construct two irrigation projects, one to cost $450,000 and the other to cost $300,000.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Where name of official is not given inquiries should be addressed to City Clerk, County Clerk or corresponding official.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK

Cohoes, N. Y.—City Council decided to construct sewer on portions of Saratoga and Niver Sts.; cost to be divided between City and property owners concerned.

Gouverneur, N. Y.—Reported a movement on foot looking to construction of municipal sewer system.

Kingston, N. Y.—Bd. Water Comrs. considering installation of large capacity filters at filter house to cost $30,000.

Paterson, N. J.—Public Service Corporation will lay conduits in Passaic Ave. at a cost of $15,000.

Paulsboro, N. J.—Remington & Vosbury, engrs., 6th and Market Sts., Camden, preparing plans for sanitary sewer system and treatment works.

Catawissa, Pa.—Boro. Council considering construction of sewage disposal plant.

Lebanon, Pa.—City planning construction of storm sewers.

Nazareth, Pa.—Frank Huth, secy., Blue Mountain Con. Water Co., Nazareth, writes contracts will soon be let for construction of 200,000,000-gal. reservoir; cost $100,000. Farley Gannett, engr., Tele. Bldg., Harrisburg.

Philadelphia, Pa.—Common Council planning for appropriation of $100,000 for water dept. for purchase of equipment for water system. Carleton E. Davis, ch. of water bureau.

Hagerstown, Md.—Reported City considering $140,000 bond issue to be used for sewer construction.

Huntington, W. Va.—Mayor E. Sehon reports city has decided to construct 9th St. trunk sewer; cost, about $75,000.

Gadsden, Ala.—City considering sewer extensions; cost $25,000. E. Smith, city engr.

Crowley, La.—Reported City Council has rejected bids for sewer and will readvertise; estimated cost $30,000.

Jackson, Tenn.—Bonds for $40,000 voted to be used for sewer construction.

Rockwood, Tenn.—Reported City considering $50,000 bond issue for sewer construction.

Bellevue, O.—W. J. Sherman & Co., Toledo, preparing plans and estimates for constructing reservoir; cost about $90,000.

Bluffton, O.—Bonds for $35,000 voted to be used for improvement of waterworks and light plant.

Canton, O.—Waterworks bonds for $77,000 will be sold April 9, by Samuel E. Barr, city aud.

Hamilton, O.—Plans being prepared for Hancock Ave. sewer. F. E. Weaver, city engr.

Youngstown, O.—Ed. L. MacLean, mgr. eng. dept., writes construction of sewers in portions of Manhattan and Indianola Aves., Carlyle, Campbell, Smithfield Sts., Osborn, Dunlap and Manhattan Aves. and Shady Run Dist. sewers contemplated; also paving in Princeton, Audubon, Madison Aves., Center St., sidewalks and cross walks for year. Harry Parrock, dir. sew.

Youngstown, O.—Reported City considering construction of sewers in portions of Osborne and Dunlap Aves. F. M. Lillie, city engr.

Garrett, Ind.—Baltimore & Ohio RR. Co. (R. N. Begien, ch. engr., Baltimore, Md.) reported to have decided to construct water treatment plant; cost $22,000.

Detroit, Mich.—C. H. Hubbell, city engr., recommends an expenditure of $8,500,000 for sewer and water extensions.

Grand Rapids, Mich.—New bids will soon be received by Bd. Pub. Wks. for construction of southwest sewer system; cost estimated at $160,000.

Chicago, Ill.—Langdon Pierce, representing sanitary district, and Dr. Richardson, representing the packing interests, completed report and recommended construction of a great stock yards sewage disposal plant to cost $3,500,000.

Harrisburg, Ill.—Reported City considering sewer improvements; cost about $44,-695. J. Upchurch, city engr.

Lombard, Ill.—Reported about 12mi. reinforced concrete pipe sewers for all sizes above 24 in. and sewage disposal plant; cost $165,000. W. S. Shields, engr., Hartford Bldg., Chicago.

Early, Ia.—Plans being prepared by E. T. Archer & Co., 512 New England Bldg., Kansas City, Mo., for construction of sewer system; cost $25,000.

Montezuma, Ia.—Bond issue for $50,000 to be used for waterworks improvements carried at last election.

Murray, Ia.—Reported plans being prepared for waterworks and sewer system; cost $50,000. E. T. Archer & Co., engrs., 512 New England Bldg., Kansas City, Mo. R. J. Badger, mayor.

Hamline, Minn.—Bill introduced in Legislature asking for appropriation of $11,000 to be used in connecting sewerage system of State Fair Grounds with large trunk sewer just constructed by St. Paul, and $2,000 for water main connections. Ray P. Speer, publicity mgr., Minn. State Fair.

Wadena, Minn.—Bond issue for $14,000 carried, to be used for waterworks extensions. L. P. Zimmerman, engr., Wadena.

Baldwin, Kan.—City will vote on question of issuing $20,000 bonds to be used for reconstruction of electric and water plant, including a filter.

Pittsburg, Kan.—Contract will soon be let to lay 2100 ft. of 8-in. lateral sewers. L. E. Curfman, city engr.

Wellington, Kan.—Reported City considering sewage disposal plant; cost about $20,000. J. W. Mairty, city engr.

Yates Center, Kan.—Reported election will be held Apr. 3 on question of issuing $80,000 bonds for waterworks improvements. J. W. Despew, city clk.

Blair, Neb.—Reported City will call election April 3 on question of issuing $20,847 bonds for sewer system.

Fremont, Neb.—City Light and Waterworks Dept. preparing plans for laying 152,970 ft. of from 4 to 12-in. c. i. water pipe.

Cooperstown, N. D.—T. R. Atkinson, city engr., of Bismark, has submitted his report for proposed water and sewer system here; cost $40,000.

La Moure, N. D.—Reported election will be held Apr. 2 on question of issuing $10,000 bonds for waterworks system.

Hagerstown, Md.—Sewerage Comn. requested another bond issue of $140,000 for sewer improvements.

Joplin, Mo.—Ordinance passed by City Comn. providing for construction of 2 new sewer districts known as North Joplin No. 3 and Picher Ave. No. 1.

Austin, Tex.—Reported City considering bond issue for construction of sewage disposal plant; cost $200,000. Plans prepared by Hering & Gregory, engrs., 170 Broadway, New York.

Corsicana, Tex.—Reported movement on foot to vote $50,000 bonds for construction of waterworks.

Kerens, Tex.—Kerens Sewer Co. incorporated with capital of $10,000; incorporators W. S. Price, B. S. Brown and others of Kerens.

Longview, Tex.—H. N. Roberts completed plans for $15,000 sewage disposal plant, tank and beds.

Bixby, Okla.—Election will be held April 3 to vote $25,000 bonds to be used for waterworks. Robert Inglish, pres. bd.

Coyle, Okla.—Reported City voted $13,000 bonds to be used for waterworks improvements.

Red Rock, Okla.—Ordinance passed authorizing $22,000 bond issue for construction of waterworks. J. M. Mitchell, town clk.

Colorado Springs, Colo.—Reported election will be held April 3 on question of issuing $150,000 bonds to be used for waterworks improvements. B. B. Reynolds, supt.

Florence, Colo.—Reported City will hold election April 3 on question of issuing $45,000 bonds to be used for waterworks improvements. D. H. Houston, supt.

Pueblo, Colo.—City council considering ordinance for storm sewer district on south side; estimated cost $435,000.

Raymond, Wash.—City Council and Silver Mill Co. plan construction of concrete reservoir 1,250,000 gal. capacity; cost about $10,000.

Seattle, Wash.—A. H. Dimock, city engr., prepared plans for constructing water mains in Alki Ave.; cost about $122,000; also for construction of sewers in E. 54th and other streets; cost about $46,397.

Tacoma, Wash.—Council authorized light and water dept. to install water mains as follows: 60-in. wood stave pipe on Palmer Junction Trestle, $7,500; 22-in. wood stave pipe from So. 12th St. to Fletcher Heights, $6,500; 16-in. c. i. pipe at J St. standpipe, $1,500; 16-in. wood pipe at So. 54th St. and J St., $7,500.

Chico, Cal.—B. H. Steffen purchased the water system of J. A. McFeeley west of the Esplanade, and will erect 80-ft. tower and otherwise improve and enlarge the system.

Baldwin Park, Cal.—Baldwin Park Domestic Water Co. (S. M. Walker, mgr.) plans spending $54,000 for waterworks improvements and extensions.

Berkeley, Cal.—Reported City will call election in April to vote $2,000,000 bonds for waterworks.

Stockton, Cal.—Plans completed and contracts will soon be let for 13,020 ft. redwood stave pipe for outfall sewers from the 2 pumping plants to be constructed to the San Joaquin River; cost about 55,622.

Globe, Ariz.—City retained Benham Eng. Co., Colcor Bldg., Oklahoma City, to prepare plans and supervise construction of sanitary, storm and lateral sewers, waterworks extensions and street paving; cost about $750,000. Election will soon be called to vote bonds.

Ogden, Utah.—Election will be held on question of issuing $200,000 bonds to be used for construction of 3d Ward sewer system. Joseph M. Tracy, city engr.

Montreal South, Que.—M. M. Condon will call for tenders in April for new waterworks; cost $180.000. E. Drinkwater, engr., 588 Blv. Des Saulniers, St. Lambert, Que.

Islington, Ont.—James Louden and Hertzberg, engrs., Excelsior Life Bldg., Toronto, have plans for waterworks, including pumps, filters, tank and 3 miles of mains; cost $82,000.

London, Ont.—Utilities Comn. (E. V. Buchanan, gen mgr.) will spend $47,000 connecting up new supply wells to augment waterworks; wooden conduits will be used.

Long Branch, Ont.—James Louden & Hertzberg, engrs., Excelsior Life Bldg., Toronto, preparing plans for waterworks, including meters, standpipe and 5 miles of mains; cost about $67,000.

Winnipeg, Man.—W. G. Chace, engr., 501 Tribune Bldg., will call for contracts in April for c. i. water mains in connection with new system.

BIDS DESIRED

Boston, Mass.—Until Mar. 27 (separate bids), by Edward F. Murphy, comr. pub. wks., for constructing pipe sewers and drains in portions of North Beacon St., Brighton, Bakersfield St., Dorchester, and Hyde Park Ave., Hyde Park.

Clifton Heights, Pa.—Until April 5, by Henry J. Sharkey, secy. boro. council, for laying terra-cotta pipe sewers. A. Y. Damon, Jr., Darby, Pa., boro. engr.

Lyndhurst, N. J.—Until April 2 (separate bids) by Bd. Comrs. (John F. Woods, tp. clk.) for laying water mains on Newawk and Swayne Aves., also for furnishing 480 lin. ft. of 4 to 6-in. bell and spigot c. i. water pipe and c. i. fittings; also for furnishing and applying about 15,000 gal. of oil on streets.

Ambridge, Pa.—Reported desired until Mar. 30 by Boro. Comn. (C. Earl Steel, clk.) for constructing improvements to waterworks, including tank of 100,000 gal. capacity, etc.

Erie, Pa.—Until April 6, by City Council, for constructing storm sewers and appurtenances; advertised in this issue.

Philadelphia, Pa.—Until April 10, by Dept. Pub. Wks. (Geo. E. Datesman, dir.) for constructing grit chamber in portions of Lycoming St., advertised in this issue.

Alliance, O.—Until April 27, by J. H. McConnell, dir. pub. serv., for furnishing c. i. water pipe and specials from April 1, 1917, to same date, 1918; pipes are to be bell and spigot of from 4 to 12 in.

Akron, O.—Until Apr. 18, by C. F. Beck, dir. pub. serv., for furnishing and erecting turbo-centrifugal pumps. G. G. Dixon, engr. Advertised in this issue.

Canton, O.—Reported desired until Mar. 28 by city for constructing Central Southwest storm sewer, including concrete outlet, brick concrete pipe, vitr. pipe, manholes, etc. W. E. Sarver, city engr.

Cincinnati, O.—Until March 30, by Chas. F. Hornberger, dir. pub. serv., for Cont. No. 2, Millcreek Interceptor, between Harrison and Marshall Aves., including 3,670 lin. ft. of from 90 to 93 in. concrete sewer; cost about $166,615; also for Cont. No. 4, same interceptor, between Mitchell and Spring Grove Aves., including 3450 lin. ft. of 69-in. concrete sewer with 150 lin. ft. in tunnel; cost about $179,770. Frank S. Krug, city engr.

Greenwich, O.—Until April 10, by F. H. Daniels, clk., bd. trustees of pub affairs, for constructing waterworks improvements; advertised in this issue.

Cuyahoga Falls, O.—Until Mar. 28 (change of date) by Village Clk. for constructing sewers in portions of Water, Main, Front and many other streets. E. D. Barstow, village engr.

Wooster, O.—Until March 30, by Max Bloomberg, serv. dir., for constructing sanitary sewers in portions of Columbus Ave. and Emerick St.

Muskegon Heights, Mich.—Until April 2, by W. J. Barber, city recorder, for constructing about 22,852 ft. of from 8 to 24-in. sewer pipe and for sewage treatment plant. Hoad & Decker, engrs., Ann Arbor.

Highland Park, Ill.—Until April 6, by Edward G. Huber, comr. pub. health and safety for constructing elevated steel water tank, capacity 200,000 gal.

Omaha, Neb.—Until April 10, by W. S. Jardine, supt. city imprvs., for constructing combined storm and sanitary sewers; cost about $600,000. John A. Bruce, city engr.

Milan, Mo.—Until April 10, by City, for constructing sanitary sewers in Dists. 1, 2 and 3; work includes about 31,428 ft. trenching and backfilling, 31,668 ft. of from 8 to 10-in. sewer pipe laid, together with manholes, etc. E. T. Archer & Co., engrs.

Fresno, Cal.—Until April 2, by W. H. Ryan, city clk., for constructing about 6 miles of brick, monolithic, cement and vitr. pipe storm sewer system; cost about $175,-000. Chas. E. Van Valkenberg, city engr.

San Diego, Cal.—Until April 2, by Bd. Superv. (John T. Butler, clk.) for constructing pumping plant, including pump, motor, discharge pipes and connections to wells, on Pueblo Lot. No. 1105.

San Francisco, Cal.—Until Apr. 7 by Const. Quartermaster, Ft. Mason, for improving water supply system at Presidio, here.

Murray City, Utah.—Reported desired until March 30, by W. Warenski, city recorder, for constructing sewer system, including septic tank. T. F. McDonald, city engr.

Simcoe, Ont.—Until March 31, by W. C. McCall, town clk., for constructing sewers and street connections and for supplying vitr. glazed sewer tile.

Winnipeg, Man.—Until April 16, by R. D. Waugh, comn. comrs., for 13,300 ft. of from 48 to 60 in. c. i. water pipe; advertised in this issue

PRICES AND LETTINGS

★*Indicates award of contract.*

Ft. Ann, N. Y.—Following bids opened March 15 by Bd. Village Trustees for waterworks construction: Louis J. Sieling, 171 Madison Ave., New York City, $34,421; Suburban Eng. Co., 15 W. 38th St., New York City, $38,532. All bids rejected, new bids will probably be advertised. Chas. E. Perry, engr., 82 State St., Albany.

Madison, Ill.—Following are totals and unit figures of bids opened March 10 by F. A. Gareshche, pres. village bd., for constructing sewer system: (a) E. R. Harding, Racine, Wis., $169,215; (b) Moreno Burkham Constr. Co., Syndicate Terminal Bldg., St. Louis, Mo., $183,622. Sheppard & Morgan, engrs., Edwardsville.

	(a)	(b)
6,360 ft. 42-in. vitr. clay tile enclosed in concrete, 6-in, thick, under 3-in. thick cover	$9.00	$10.50
310 ft. 42-in. vitr. clay tile enclosed in concrete, 9-in. thick, under 5-in. thick cover	14.00	15.00
450 ft. 42-in. sewer pipe enclosed in concrete, 12-in. thick, under 7-in. thick cover	34.00	40.00
200 ft. 39-in. tile incased in concrete	7.80	9 00
360 ft. 36-in. double strength sewer pipe (vitrified)	6.60	6 50
720 ft. 33-in. double strength sewer pipe (vitrified)	5.65	5.00
1,140 ft. 28-in. double strength sewer pipe (vitrified)	3.90	3.80
1,320 ft. 27-in. double strength sewer pipe (vitrified)	3.80	4.00
2,740 ft. 24-in. double strength sewer pipe (vitrified)	3.50	3.50
856 ft. 22-in. double strength sewer pipe (vitrified)	3.30	3 00
343 ft. 20-in. double strength sewer pipe (vitrified)	2.70	2.50
5,240 ft. 18-in. double strength sewer pipe (vitrified)	2.35	2.50
10,330 ft. 15-in. standard strength	1.30	1.50
7,720 ft. 12-in. standard strength	1.00	1.20
960 ft. 12-in. pipe in shallow cut	0.07	0.06
1,700 ft. 8-in. pipe in shallow cut	0.60	0.40
70 catchbasins	18.00	15.00
60 manholes	50 00	40.00
6 12-in. uprights	10.00	10.00
14 8-in. uprights	7.00	7.00
1 10-ft. sewage tank	625.00	520.00
1 outfall	350.00	460 00
1 special concrete manhole with sluice gate	1.450.00	990.00
1 special discharge manhole	400.00	300 00
1 pumping station	1,950.00	1,650.00
1 tank and reservoir 36 ft. diam	5,500.00	5,100 00
1 equipment for pumping station	11,500.00	12,000.00
200 cu. yd. excav	1.00	0.50

★**Rochester, N. Y.**—Contract awarded by Bd. Contract & Supply (F. X. Pifer, secy.), for furnishing and laying 10,750 ft. 37-in. steel pipe to T. A. Gillespie Co., 50 Church St., New York City, at $494,830.

Newark, N. J.—Following are 4 lowest bids opened March 15 for construction of Blanchard St. sewer: Pasquale Mauriello, Montclair, $9,417; O'Gara Constr. Co., Newark, $9,571; Averill Mathews Co., Newark, $10,000 Harrison & Craig, Newark, $10,085.

New London, O.—Bids opened March 12 for laying 30,000 ft. of 4 to 8 in. pipe will probably be rejected and new bids received at once. Philip Burgess, Columbus.

★**Ravenna, O.**—Contract reported awarded to B. C. Coit, Cumberland, Md., for improving waterworks at about $75,000. S. B. Horsfall, dir. of serv.

★**Chilton, Wis.**—Bids opened March 6 by City for construction of waterworks and sewer systems, and contracts have been awarded as follows: Waterworks, to Hallett & Kuehn, Aurora, Ill., 388 tons of 10, 8 and 6-in. c. i. pipe at $41.70 per ton: 17 tons 4-in., $44.70 per ton; 12 tons specials, $80 per ton; valves and hydrants, $1,468, total $19,403, and for laying c. i. pipe, setting hydrants, valves, etc., $8,488; Chicago Bridge Wks., 105th and Thrope Sts., Chicago, Ill., for elevated steel tank and tower at $6,160; to Stannard Power & Equipt. Co., 53 W. Jackson Blvd., Chicago, Ill., for deep-well pump, $2,870, and for waterworks building, to Jos. Schmidklofer, at $3,237. Sewer System, awarded to Hallett & Kuehn, at following unit prices: 25,000 ft. 8-in. pipe, 59 cts.; 6850 ft. 10-in., 71 cts.; 5000 ft. 12-in., 95 cts.; 1300 ft. 15-in., $1.12; 900 ft. 18-in., 60 cts.; 100 manholes, $31; 20 lampholes, $12; rock excav., $6 cu. yd.; concrete, Class A, per cu. yd., $12; Class B and C, $10; Class C, iron pipe, 8 in., $1.75; 10 in., $2.25; 12 in., $2.75; 16 in., $4.50; Class A, iron pipe, 10 in., $3; 16 in., $4.50; lock joint pipe, 16 in., $4.50; 6 flush tanks, $75 each; total $34,049. Next 3 lowest bidders, Farnham & Yahr, $35,450; Gray-Robinson Co., Manitowoc, Wis., $36,378; E. Harding Co., $37,141.

★**Burlington, Ia.**—Contract awarded by City (bids opened Feb. 28) for horizontal cross compound crank and fly wheel, condensing pumping engine, etc., to Murray Iron Wks. Co., Burlington, at $17,480. Frank Lawlor, supt.

★**Ellsworth, Kan.**—Contract awarded (bids opened March 15) for constructing storm sewers to A. R. Stimson, Topeka, at $30,075. E. R. Shaw, clk.

★**Fairbury, Neb.**—Contract awarded by city (bids opened Mar. 15) for construction of storm sewers to Roberts Constr. Co., Lincoln, at $11,947. There were 13 other bidders. (R. A. Davis, city clk.)

★**Imperial, Neb.**—Contract awarded by village (bids opened Mar. 14) for constructing waterworks, including deep well, pump and pumphouse, etc., to Peter N. Kruse, Spencer, Ia., at $31,900.

★**Bowman, N. D.**—Contract reported awarded for distributing system to Haggart Constr. Co., Fargo, at $23,075; Baker Constr. Co., Baker, Mont., as lowest bidder for sinking 20-ft. well at $7,637 or 16-ft. well at $7,066.

Seattle, Wash.—Lowest bid opened by Bd. Pub. Wks., for water mains in Shilishole Ave. was of S. A. Moceri, 1212 South M St., Tacoma, at $30,443.

★**Arcadia, Cal.**—Contract awarded by City for furnishing 17,000 ft. riveted steel pipe to Los Angeles Mfg. Co., 2600 Lenard St., Los Angeles, at (a) 34.5 cts. per ft., for 6-in., (b) 45 cts. for 8-in., (c) 74.75 cts. for 12-in. Other bidders, all of Los Angeles: Lacy Mfg. Co., (a) 40 cts., (b) 50 cts., (c) 88 cts.; Western Pipe & Steel Co., (a) 41.5 cts., (b) 51.5 cts., (c) 87 cts.; Baker Iron Wks., (a) 37.95 cts., (b) 46.45 cts., (c) 83.35 cts.

★**Yuba City, Cal.**—Contract awarded Vaughan Bros., Oroville, for constructing 15,000 lin. ft. of concrete pipe line on ranch owned by Herman Berg of Sutter County.

★**Nezperce, Idaho.**—Contract awarded by T. M. Roberts, clk. sewer comn., for sewer system and sewage disposal plant to Security Bridge Co., Lewiston National Bank Bldg., Lewiston, at $28,499; other bidders: G. A. Raven, 818 Mechanics Bldg., San Francisco, Cal., $28,690; Elliott Contr. Co., 302 McKay Bldg., Portland, Ore., $28,830; G. L. Geist, St. Maries, Idaho, $30,031. Sawyer Bros., engrs., 410 Lindelle Block, Spokane, Wash.

STRUCTURAL STEEL WORK

PROPOSED WORK

Moira, N. Y.—Contemplated steel bridge to be constructed here will probably be built by town with day labor. S. A. Howard, co. supt. highways, Malone.

Millersburg, Pa.—State Legislature considering bill authorizing appropriation of $450,000 for proposed construction of a state bridge over Susquehanna River, here, connecting Perry and Dauphin Cos.

New Wilmington, Pa.—Boro. intends constructing 50 x 14 ft. bridge with 11-ft. opening on North Market St. over Nelson Run.

Wilmington, Del.—State Assembly approved bill authorizing issuance of $100,000 bonds for proposed construction of new bridge over Brandywine Creek.

Camden, S. C.—County intends erecting bridge over Wateree River to replace one washed away last summer, to be about 1½ mi. north of old site and near mouth of Twenty-Five Mile Creek, for which bids on bonds are now being received; estimated cost $100,000. Address Co. Superv. West.

Lake Charles, La.—Plans being prepared by Marsh Engr. Co., Masonic Temple, Des Moines, Ia., to construct between 6 and 10 highway bridges in Calcasieu parish; estimated cost about $100,000.

Paducah, Ky.—McCracken Fiscal Court (J. M. Lang, judge) has received petition to construct bridge over Clarks River. John R. Thompson, co. engr.

Lima, O.—City Council considering holding election to vote $100,000 bonds for proposed reconstruction of West, Pierce, Collett, Metcalf and Main St. bridges over Ottawa River, also bond issues for proposed construction of an adequate sewer system and further improvement of Ottawa River from Main St. to Pennsylvania River; county will bear proportionate share of cost of Main St. and possibly Metcalf St. bridges.

Columbus, Ind.—Estimated cost to replace present bridge over Flatrock on 8th St. with steel structure giving 150 ft. additional water way, as recommended by Levi Hege, engr., to Co. Comrs., placed at $26,-350; new concrete bridge, 500 ft. long, would cost $36,500.

Pocahontas, Ia.—Bridge bonds for $60,000 will be sold Apr. 2 by W. C. Wood, co. aud.

Morrillton, Ark.—J. Lyle Harrington, Orear-Leslie Bldg., Kansas City, Mo., preparing plans for proposed highway bridge to be constructed here.

Bryan, Tex.—Estimated cost of proposed bridge to be constructed 9 miles west of here over Brazos River by county, placed at $38,000.

BIDS DESIRED

Elizabeth, N. J.—Until April 4, for constructing new Straus, bascule bridge over Elizabeth River at South Front St., seven different bids for work, each bid to be accompanied by certified check for $5,000. Jacob L. Bauer, co engr.

Freehold, N. J.—Until April 4, by Bd. Freeholders (Chas. E. Close, clk., Matawan) for replacing Seabright drawbridge.

West Chester, Pa.—Until April 2, by Co. Comrs., for constructing four arch masonry bridge over Brandywine Creek at Rock Run village, Valley Twp. Isaac Y. Ash, controller.

Lexington, Miss.—Until April 2, by Bd. Supervt. (J. H. Fuqua, chancery clk.), for constructing steel bridge across Funnagusha Creek, on Howard and Tchula Road.

Tiffin, O.—Until April 7, by Co. Comrs., for constructing Wolf Creek Bridge No. 212, in Liberty Twp., with wood plank and creosoted wood block floor; Spyde Bridge No. 30, Thompson Twp., this bridge to be reinforced concrete. J. E. Hershberger, co. aud.

Greenfield, Ind.—Until April 2 by Chas. Boone, co. engr., for following bridge repairs: Laying new block floor on Sugar Creek Bridge, span about 75 ft., roadway 16 ft., constructing reinforced concrete abutments, and wing walls for Sipe Bridge in Jackson Twp., and constructing concrete abutments for Butler Bridge.

Macedonia, Ia.—Reported desired until April 4, for constructing steel bridge over Nishnabotna River. Chas. H. Grim, clk.

Sibley, Ia.—Until April 3 by D. W. Clayton, co. aud., for constructing 126 cement bridges and culverts ranging from 15 in. circular to 36 in. ft. girder.

Buffalo, Minn.—Reported desired until April 10, by John A. Berg, co. aud., for furnishing various sizes of corrugated metal culverts until July, 1917.

Walker, Minn.—Until April 3, by Co. Bds. of Cass (C. D. Bacon, aud.) and Wadena Co. (Eugene Boss, aud.) for constructing State Bridge No. 2384; superstructure to have three 80-ft. spans, 18-ft. roadway, concrete floor and abutments; advertised in this issue.

Eufaula, Okla.—Until April 2, at office of Carl W. Gust, secy., Jefferson Highway Bridge Co., for competitive plans and bids for constructing $150,000 toll bridge over South Canadian River, about 3 miles southeast of here.

Ft. Sill, Okla.—Until April 3 by Const. Quartermaster, for furnishing two 50,000-gal steel fuel oil storage tanks; advertised in this issue.

PRICES AND LETTINGS

★*Indicates award of contract.*

Boston, Mass.—Following are bids opened by Metropolitan Park Comn., 18 Tremont St., Boston, for grading and constructing approaches of North Beacon St. Bridge, Watertown, Mass.; James H. Fannon, 26 Hinckley St., Somerville, Mass., $16,575; A. G. Tomesello, 69 Gibson St., Dorchester, Mass., $19,799; Timothy A. Moynihan, South Hamilton, Mass., $19,951; on Weston bridge, Weston, Mass., James H. Fannon, $6,237, low bidder.

★**Baltimore, Md.**—Contracts awarded by State Roads Comn. (Clyde H. Wilson, secy., Baltimore) to Strobel Steel Constr. Co., Chicago, Ill., at $15,065, to construct Sinepuxent Bay bridge in Worcester Co., and at $14,765 to construct Sassafras River bridge in Kent and Cecil Cos.

★**Barbourville, Ky.**—Contract awarded by county (bids opened Mar. 14) to Virginia Bridge Co., Roanoke, Va., to construct steel bridge on pike road near Flat Lick.

★**Zanesville, O.**—Contract awarded by county and Baltimore & Ohio RR. (R. N. Begien, ch. engr., Baltimore, Md.) and Pennsylvania RR. (Alex. C. Shand, ch. engr., Philadelphia, Pa.) to W. J. Titus, Indianapolis, Ind., at about $100,000, to construct bridge with 26-ft. roadway, paved with brick, and a 6-ft. concrete sidewalk with concrete posts; railroads will bear 65 per cent of cost.

Detroit, Mich.—Following are four lowest bids opened Mar. 15 by U. S. Engrs. Office, Detroit, for furnishing and erecting steel lock gates for Fourth Lock, St. Mary's Falls Canal, Mich.: Milwaukee Bridge Co., Milwaukee, $229,970 (recommended for acceptance); Penn Bridge Co., Beaver Falls, Pa., $238,576; Independent Bridge Co., Pittsburgh, Pa., $264,495; Whitehead & Kales Iron Wks., Detroit, $265,773.

★**Renwick, Ia.**—Contract awarded by Co. Comrs., Dakota City (bids opened March 5) to N. M. Stark & Co., Des Moines, Ia., to construct pony truss bridge, about 4½ miles north of here, and other bridge work in county.

★**Sioux City, Ia.**—Contract awarded by E. E. Hosmer, co. aud. (bids opened Feb. 26) to Western Bridge & Constr. Co., Omaha, Neb., at $39,664, for constructing bridges in county.

★**Westpoint, Neb.**—Contract awarded by R. Brazda, co. clk. (bids opened March 13) to Standard Bridge Co., Omaha, Neb., for all bridge and bridge repair work throughout county during 1917.

REINFORCED CONCRETE

PROPOSED WORK

Philadelphia, Pa.—Bids being received for Charles Datz & Co.'s 2-story, 40 x 100 ft. brick and concrete factory building. Andrew J. Sauer & Co., archts., 908 Chestnut St., Phila.

Columbus, O.—Plans being prepared to replace present steel bridge over Olentangy River at 3d and Lane Aves. with reinforced concrete structure at estimated cost of $90,000; present bridge will be removed to replace one of wooden bridges over a small stream in county. Address Co. Clk.

Omaha, Neb.—Bids will be received in near future by M. F. Shafer & Co. for erecting 5-story and basement steel and reinforced concrete 66 x 132 ft. fireproof building, with brick walls, to cost $70,000. John McDonold, archt., Omaha.

Phelps, Neb.—Chicago, Burlington & Quincy (G. A. Haggander, bridge engr., Chicago, Ill.) intends replacing present bridge over Platte River between here and Grand Island with reinforced concrete arched structure, 750 ft. long, on Bignell piling; grade will be 11 ft. higher than present bridge, which is 1200 ft. long. In conjunction with this work roadbed will be straightened and raised for about 4½ miles on the approaches to bridge.

Florence, Ariz.—County (C. H. Niemeyer, clk. bd. supervs.) intends constructing reinforced concrete extension to Florence bridge over Gila River here, under supervision of State Engr., Phoenix.

BIDS DESIRED

Peyton, Ga.—Until April 14, by C. M. Holland, purch. agt., for constructing reinforced concrete bridge over Southern Ry., advertised in this issue.

Celina, O.—Until Mar. 29, by J. H. Steinbrunner, co. aud., for constructing 15 reinforced concrete bridges with 6 to 15 ft. span over various creeks. Noah Hinton, engr., courthouse.

Cincinnati, O.—Reported desired until Mar. 30, by Fred E. Wesselman, pres. co. bd., for constructing reinforced concrete bridge No. 8 on Lawrenceburg Road; and renewing floor at Suspension Bridge road.

★**New York, N. Y.**—Following are totals and unit figures of four lowest bids opened Mar. 15, by Park Bd. Dept. of Parks, for constructing concrete bulkhead along the easterly boundary of the public driveway where required in vicinity of 165th, 170th and 184th Sts., Manhattan: (a) F. Gradwohl Eng. & Contr. Co., 101 Park Ave., $89,818 (awarded contract); (b) Phoenix Constr. Co., 41 Park Row, $91,054; (c) Felix De Lucca, 103 Park Ave., $93,367; (d) Snare & Triest Co., 233 Bway., $94,112.

	(a)	(b)	(c)	(d)
12,200 cu. yd. crib and crib filling to excavate	$1.51	$1.15	$1.31	$1.20
6,500 cu. yd. earth and stone to excavate	0.60	1.15	1.26	1.00
2,150 cu. yd. concrete, Class "A"	8.30	7.85	7.83	7.70
2,800 cu. yd. concrete, Class "B"	10.60	11.25	10.13	10.50
400 cu. yd. concrete, Class "C"	10.00	8.00	10.44	14.00
315 cu. yd. concrete, Class "D"	6.00	6.00	6.53	7.40
550 cu. yd. concrete, Class "E"	4.50	5.60	6.00	6.90
1,040 lin. ft. granite coping	4.50	5.20	6.25	5.30
2,300 cu. yd. dry rubble wall	0.50	0.45	0.50	0.80
2,620 cu. yd. earth and stone filling	0.02	0.30	0.30	0.50
550 cu. yd. steam cinders backfilling	0.50	0.34	0.65	0.60
1,100 lin. ft. curbstones to redress and reset	0.60	0.63	0.50	0.80
21,800 sq. ft. walk pavement	0.13	0.15	0.14	0.11
255 sq. yd. asphalt block gutters	2.50	2.30	1.80	3.00
900 sq. yd. roadway pavement	0.50	0.75	0.75	1.00
4 gutter outlets	150.00	2.12	100.00	250.00
8,900 sq. ft. sod	0.03	0.04	0.06	0.04

Burlington, Ia.—Reported desired until Mar. 27, for constructing one 50-ft. pony-truss bridge, reinforced concrete abutment; also for furnishing steel for 26-ft. I beam span, f. o. b. Yarmouth, and corrugated culvert pipe; M. L. Hutto, co. engr.

Elkadar, Ia.—Until Apr. 5, by A. H. Andreae, co. aud., for constructing 10 reinforced concrete box culverts, 5 reinforced concrete slabs, and one 50-ft., one 40-ft. pony truss reinforced concrete deck girder, etc.

Chehalis, Wash.—Until Apr. 2 by Co. Comrs. for constructing 90-ft. concrete span. J. D. Neville, co. engr.

Winnipeg, Man.—Until Apr. 21 by W. V. Stevenson, Secy. Treas., for constructing steel and concrete or all concrete bridge over Oak River north of Griswold.

PRICES AND LETTINGS

★Indicates award of contract.

★**Brooklyn, N. Y.**—Contract awarded by Rockwood & Co., here, to Turner Constr. Co., 11 B'way, New York City, for erecting reinforced concrete, 5-story and basement, 25 x 100 ft., factory building, at 76 Washington Ave. Lockwood, Greene & Co., archts.

★**Sioux City, Ia.**—Contract awarded by County (bids opened March 13) to C. E. Cheeley, Hornick, Ia., at $9,047, to construct 18 reinforced concrete culverts for Farmer's Drain Dist. C. Moriarty, engr.

★**Washington, Ia.**—Contract awarded by county to R. H. Waugh, Clarksville, Ia., at $35,206, to construct 38 concrete culverts in county. W. P. Raum co. engr.

★**Los Angeles, Cal.**—Contract awarded C. J. Kubach Co., 701 Merchants Nat'l Bank Bldg., for erecting 4-story and basement 144 x 152 ft. reinforced concrete department store building at s. w. corner 7th and Olive Sts., for Coulter Dry Goods Co., at $300,000. W. J. Dodd & William Richards, archts. and engrs., 609 Brockman Bldg.

ROADS AND PAVING

PROPOSED WORK

Ayer, Mass.—State Highway Dept., Boston, intends improving Massachusetts Ave. for 2 mi. between here and Fitchburg; estimated cost between $20,000 and $30,000.

Boston, Mass.—Plans being prepared by Fisher, Ripley & Le Boutillier, 45 Bromfield St., Boston, archts., for contemplated improvements in Franklin Park, including new gravel walks, 8 marble columns at entrance, etc.; estimated cost $130,000. Fred. Law Olmstead, landscape archt., care Park and Recreation Comrs., 33 Beacon St., Boston.

Fitchburg, Mass. — Following are 1917 street maintenance appropriations: For sidewalks, $3,800; watering and oiling, $3,800; macadam, $4,750; streets, $67,925. Frank H. Foss, mayor.

Lowell, Mass.—Estimated cost of paving proposed extension to Dummer St. which will have 30-ft. parkway in center with 2 one-way streets, each 33¾ ft. wide, requiring 2200 sq. yd. paving, and laying curb and granolithic sidewalks, placed at $10,000.

Revere, Mass.—City (H. T. White, asst. mgr.) intends paving with granite block 5000 sq. yd.; with bituminous material, 10,000 sq. yd., and constructing 8000 sq. yd. granolithic sidewalks. Carl Richmond, supt. pub. wks.

Westerly, R. I.—Town voted $179,000 at Mar. 7 election, of which $51,800 is for repairs and improvements to highways and bridges. Eugene B. Pendleton, moderator.

Albany, N. Y.—See "Excavation, Drainage and Dredging."

Geneseo, N. Y.—Bd. Supervs. intends improving Geneseo-Lakeville and Dansville-Conesus roads.

Goshen, N. Y.—State Highway Dept., Albany, N. Y., intends reconstructing with concrete, this spring, Goshen-Chester road which is part of Trunk Line No. 4.

Mayville, N. Y.—County, with own forces, intends paving on slag macadam base total of 11 miles of roads from Smith Mills to Hanover Center, Brocton Village to Lake Road, Sherman to Mina town line, Dunkirk to Silver Creek, and road in Frewsburg Village; estimated cost $35,000. Wm. J. Knauer, co. supt. highways, Jamestown, N. Y.

Sodus, N. Y.—Town Bd. has appropriated $12,200 for improvement of town highways, including oiling of Geneva Road and Maple Ave.

Bayonne, N. J.—City (Walter L. Clarkson, city engr.) intends paving with asphalt and bituminous concrete 75,000 sq. yd. Hugh H. Mara, chmn. bd. pub. wks.

Hoboken, N. J.—New bids will be asked by city for paving Madison Ave. and other streets with asphalt on concrete base, which was awarded to Wm. T. S. Crichfield, Hoboken, May 3, 1916, at $121,106, and set aside by Court of Errors.

Passaic, N. J.—City (C. R. Wise, city engr.) contemplates paving 15,000 sq. yd. with sheet asphalt; 14,800 sq. yd. with Amiesite on macadam base; 7000 sq. yd. asphalt wearing surface (penetration method); 3600 sq. yd. on granite block, and 3600 sq. yd. Amiesite on concrete base. Wm. A. Reid, dir. dept. streets and pub. impts.

Rahway, N. J.—City contemplates paving 4 blocks. Chas. H. Lambert, city clk.

Farrell, Pa.—Estimated cost of proposed paving, probably with blocks and pitch filler, which will be done by city forces, placed at $20,000.

Harrisburg, Pa.—Contracts will soon be awarded by city to resurface portions of West Bruce, West and East Water and South German Sts. M. B. Cowden, city engr.

Lewistown, Pa.—City Council (J. Harry Saxton, secy.) intends paving portion of South Main St. at estimated cost of $28,000, all of North Grand and Spruce Sts., and is considering improvement of South Brown St. with tarvia, and Dorcas St. G. A. Leopold, Sr., burgess.

Mt. Gretna, Pa.—State intends improving National Guard mobilization camp, here, by constructing roads, sewer and water systems; estimated cost $160,000. Address State Highway Dept., Harrisburg.

Pennsylvania.—State Legislature considering bill appropriating $1,000,000 for construction and improvement of state highways in boroughs and towns; this is in addition to regular highway appropriation.

Pottstown, Pa.—Town intends spending $13,500 on highway work this year; new work will include new curbing on various streets. Sam H. Porter, chmn. finance com.

Warren, Pa.—County Supervs. plan holding election to vote $300,000 bonds for proposed road improvements.

Waynesburg, Pa.—County will improve 1 mile of Rogersville road. Address A. G. Wiley, care county jury.

Clifton Forge, Va.—City intends spending $80,000 on proposed road and bridge work. J. D. Dunford, supt. pub. wks.

Parkersburg, W. Va.—All bids opened Feb. 21 by city to pave with brick on concrete base with sand cement cushion filler and construct new curb on Market and Julian Sts., rejected, because Traction Co. is unable to obtain rail delivery; low bidder, C. Kennedy & Son, local, at $22,450. Contracts for additional paving with brick and concrete on portions of 21st, 22d, Latrobe and George Sts., will be awarded in near future. T. L. Higgs, city clk.

Tarboro, N. C.—City intends paving between 20,000 and 40,000 sq. yd., probably with sheet asphalt on concrete base, and construct between 10,000 and 20,000 lin. ft. concrete curb and gutters on sand and clay foundation on St. Andrews, St. Patrick and St. James Sts., for which surveys are being made by Wm. M. Platt, engr., Durham, N. C.

Anderson, S. C.—Contracts will soon be awarded by Street Paving Com. to pave various streets, for which $300,000 bonds and warrants were voted March 1. J. B. McCrary Co., engrs., Atlanta, Ga.

Gaffney, S. C.—Cherokee Co. voted $225,000 bonds for proposed construction of permanent roads.

McCormick, S. C.—McCormick Co. (J. L. Kennedy, secy. co. highway comn.) intends constructing 150 miles of permanent public highways under supervision of U. S. Rural Engr., for which bids on $176,000 bonds were opened Mar. 20.

Macon, Ga.—County Comrs. intend paving 1 mile out from city on each of following roads: Forsyth, Houston, Columbus, Cross Keys and Clinton roads.

Thomasville, Ga.—Plans being prepared by J. B. McCrary Co. (J. C. Cook, ch. engr.), Atlanta, Ga., for paving and improving various streets here; estimated cost $200,000, for which bids will be asked in June.

Quincy, Fla.—Plans being prepared by J. B. McCrary Co., engrs., Atlanta, Ga., for paving various streets here; estimated cost $50,000 to $75,000, for which bids will be asked in June.

Tampa, Fla.—Issuance of $600,000 bonds for proposed construction of brick surfaced roads being considered by Co. Comrs. and Tampa Bd. of Trade.

Birmingham, Ala.—Included in road work contemplated this year by county is construction of one to Worrier River and another to Leads. S. R. Barson, co. engr.

Brandon, Miss.—Pelahatchie Dist., Rankin Co., voted $75,000 bonds for proposed road work. J. A. Robinson, clk bd. supervs.

Columbus, Miss.—Artesia Road Dist., Lowndes Co., intends holding election to vote $25,000 bonds for proposed road work. Address Clk., Bd. Supervs.

Greenville, Miss.—Contracts will be awarded in spring by Co. Highway Comn. (A. R. Alling, office engr., P. O. Box 76) to construct 154 miles of concrete highway varying from 8 ft. to 15 ft. wide, for which $950,000 bonds were voted in 1916.

Indianola, Miss.—County sold $200,000 bonds for proposed gravel road improvements in Dists. 2 and 3.

Yazoo City, Miss.—In accordance with Court decision, Yazoo Co. has available $132,000 for immediate construction of proposed roads.

Memphis, Tenn.—Estimated cost of proposed 3d St. extension placed at $85,000, of which city will pay $21,500, property owners $42,500 and private donations $21,500. James S. Robinson, chmn., property owners' com.

Mountain City, Tenn.—Johnson Co. voted $200,000 bonds for proposed road construction work, which includes road across county from Virginia state line near Damascus through here to Butler on Carter Co. line.

Brownsville, Ky.—County (E. O. Mills, co. clk.) intends paving 3 miles of road with macadam and constructing some culverts requiring some iron; material for latter will be purchased by county. M. L. Maxwell, co. engr.

Columbia, Ky.—County (Walker Bryant, co. clk.) intends constructing 5 miles of roads. C. C. Hindman, co. engr.

Louisville, Ky.—Contracts will probably be awarded in April by city (D. R. Lyman, city engr.) to pave with asphalt, bitulithic macadam, wood block and granite, construct sidewalks and concrete curbing and oil various streets. Roger McGrath, secy. bd. pub. serv., City Hall.

Paducah, Ky.—McCracken Fiscal Court (J. M. Lang, judge) has appropriated $15,000 as recommended by Road Com. for improvement of county cross-roads under co-operative plan whereby residents pay ½ of expenditure, either in money or labor. John R. Thompson, co. engr.

Owensboro, Ky.—City considering improvement of portions of West 2d, South Frederica, Allen and five other streets.

Akron, O.—Summit Co. has been allowed $25,000 federal aid for road improvements this year.

Circleville, O.—Contracts will probably be awarded about June 1 by city to pave 18,756 sq. yd. on Franklin St. with brick, on 6-in. concrete, with 1½-in. sand cushion. H. F. Alkire, city engr.

Cleveland, O.—Road improvement bonds for $11,000 will be sold March 28 by E. D. Rhoads, clk. township trustees, Solon Twp.

City's paving program for 1917 includes 19 miles of repaving and 100 new streets for original paving; some of streets recommended for paving by Robt. Hoffman, city engr. during 1917 and 1918, are St. Clair and Euclid Aves., Lake Shore Blvd., Kinsman and Clifton roads. Alex. Bernstein, serv. dir.

Defiance O.—Road improvement bonds for $16,750 will be sold Apr. 2 by Roger Daoust, co. aud.

Hamilton, O.—County intends issuing bonds for proposed improvements of 1.8 miles on Hamilton-Scipio road; estimated cost to county, $19,000; State, $19,000; and 5.97 miles on Carthage-Hamilton pike—county, $26,190; State, $98,000.

Xenia, O.—City contemplates paving 40,000 sq. yd. this year. J. P. Shumaker, city engr.

Yellow Springs, O.—City intends paving 3 miles of streets with macadam. J. P. Shumaker, engr., Xenia, O.

Salem, Ind.—County (Wm. A. Arnold, co. clk.) intends constructing 16 miles of roads. Stephen O. Brown, co. engr.

Detroit, Mich.—City intends resurfacing 400,000 sq. yd. with sheet asphalt. Address C. A. Proctor, care dept. pub. wks.

Grand Rapids, Mich.—City intends spending $215,420 to pave 4 streets with brick on concrete base, 3 with concrete, 1 with sheet asphalt and 1 with tar macadam. W. S. Moore, city engr.

Marquette, Mich.—City contemplates paving about 25,000 sq. yd. with macadam (penetration method). Morgan H. Wright, city engr. and supt. streets.

Muskegon, Mich.—City contemplates paving about 30,000 sq. yd. with sheet asphalt on 5-in. concrete base with combined curb and gutters, also resurfacing some of the macadam roads with Tarvia B., penetration method. Paul L. Grimes, city engr.

Mt. Carroll, Ill.—Contract will be awarded by county (S. C. Campbell, co. supt. highways) about April 6 to construct 2 miles of gravel road with state aid; also grade and oil several miles of earth roads and repair and oil 15 miles of waterbound macadam roads.

City intends paving 5 blocks on Market St., with 8 per cent grade, with 6-in. concrete base, sand cushion and asphalt filler; estimated cost $23,000. James A. Cormany, purch. agt.

Springfield, Ill.—Recommendations of Edw. H. White, co. highway supt., to Bd. Supervs., calls for oiling 15 miles of Rochester, old Jacksonville and Beadstown roads and Logan-Lee highway through Cooper Twp., grading 150 miles, paving 2 miles and constructing new bridge; plan calls for $20,000 state aid.

Madison, Wis.—City (E. E. Parker, city engr.) contemplates paving 50,000 sq. yd. with 2-course concrete, 50,000 sq. yd. with sheet asphalt and construct curb and gutters, including necessary drainage work.

Clarion, Ia.—County (R. V. Goslin, clk. dist. court) intends grading and graveling roads at estimated cost of $40,000. E. G Krull, co. engr.

Clinton, Ia.—All bids received Mar. 13 by city to pave 10,500 sq. yds. on Comanche Ave. with vitrified brick and construct curb and gutters, returned unopened; City Council decided to postpone improvement.

Dubuque, Ia.—City contemplates paving 50,000 sq. yd. with creosote wood blocks, 25,000 sq. yd. with macadam, 25,000 sq. yd. with bitulithic and 5000 sq. yd. with brick. F. J. McNulty, city engr.

Glenwood, Ia.—City intends paving 35,000 sq. yd. and constructing 30,000 lin. ft. of curb or combined curb and gutter. Theo. S. DeLay, engr., Creston, Ia.

Sioux City, Ia.—Estimated cost of contemplated paving work in city, placed at $340,000, of which $44,100 is for alley work; largest jobs being on Wall ($28,560), 7th ($22,925), and Jones ($19,500) Sts.; cost per sq. yd. in residence dists. being between $1.35 and $1.47 per sq. yd.; in business dists., $1.80 per sq. yd.

St. Cloud, Minn.—Contracts will be awarded this summer by city to pave, probably with bitulithic, 25,000 sq. yd. P. E. Bonowman, city engr.

Arkansas City, Kan.—City contemplates paving 40,000 sq. yd. this year. T. P. Alford, city engr.

Tribune, Kan.—County (Clifford Barnes, co. clk.) intends grading 20 miles of roads. Chas. Cassel, co. engr.

Maysville, Mo.—Plans being prepared by McCrae Engr. Co., Kansas City, Mo., to pave at least 12,000 sq. yd. of streets with vertical fiber brick.

Ozark, Mo.—County has voted $40,000 bonds for proposed road construction work.

Poplar Bluffs, Mo.—Contracts will probably be awarded in May by City to pave 18,000 sq. yd. with concrete on 5th St. and construct about 2 miles of curbing. Edw. C. Thomas, city engr.

Earl, Ark.—City intends paving 15 blocks and grade, gravel and oil three others.

Jasper, Ark.—County (C. Young, co. clk.) intends constructing 21 miles of road between here and Harrison. P. H. Sutton, co. surv. W. H. Burdine, co. judge.

Little Rock, Ark.—State Highway Dept. (H. R. Carter, engr.) contemplates construction of road between here and Batesville, 100 miles long.

Hamilton, Tex.—City voted on Mar. 13 $20,000 bonds to pave various streets with crushed rock and Tarvia filler; 2-ft. cement curb and gutters with 3 or 4-in. of crushed rock will be constructed by property owners. R. A. Kooken, mayor.

Huntsville, Tex.—Bedias Dist., Walker Co., will hold election April 7 to vote $25,000 bonds for proposed graveling or paving of roads. W. J. Kelly, co. road engr.

Durant, Okla.—City intends paving 35,000 sq. yd. this year. L. V. Stinson, acting city engr.

Okemah, Okla.—County (Chas. R. Diehl, co. clk.) will shortly ask for bids on bonds voted March 9 for proposed road work. W. H. Patterson, engr.

Centralia, Wash.—City contemplates laying 62,000 lin. ft. of 5-ft. wide concrete sidewalks. Roy S. Welsh, city engr.

Goldendale, Wash.—Town intends grading, paving 28 ft. wide with waterbound macadam, constructing drainage system and concrete curbs on D St.; estimated cost $15,000. D. Gunning, town clk.

LaConner, Wash.—City intends paving portion of Center St. with 7-in. one-course concrete, also 2d, 3d, 4th, 5th and 6th cross streets joining Center and Morris Sts.; estimated cost $10,000.

Wenatchee, Wash.—County (T. L. Ross, aud.) intends paving 1¼ miles near Monitor bridge with one course concrete; grading will cost $6,000, paving $12,000. F. M. Berry, co. engr.

Lemoore, Cal.—City Trustees intend paving with 1½-in. bitulithic on 5-in. concrete base several streets.

Palo Alto, Cal.—City Planning Comn. (Frank Kasson, secy.) approved as part of permanent improvement of city, construction of plaza, 300 ft. wide and entirely surrounded by an arcade; plans in preliminary state.

Visalia, Cal.—County voted on Mar. 7 to issue $2,200,000 bonds for proposed construction of 220 miles of highways with 1½-in. asphaltic surface on 5-in. concrete base; main highways will be 18-ft. wide and laterals 12-ft. wide. Bids for bonds will be asked about April 20, for construction about June. B. O. Lovelace, engr.

Flagstaff, Ariz.—Contract will probably be awarded latter part of April by Town (Alex. A. Johnston, town clk.) for paving 23 blocks, each 300 ft. long, 30 ft. and 40 ft. wide, with 2-in. bitulithic on 4-in. cement concrete base and 3 blocks, 20 ft. wide, with concrete. C. M. Brooks, town engr.

Yuma, Ariz.—Contract will be let in April by City to pave portions of 1st St. and 2d Ave. with bitulithic on 3½-in. or 4½-in. bituminous concrete base or on 4-in. or 5-in. hydraulic cement concrete base, Topeka asphalt concrete on 4-in. or 5-in. bituminous concrete base or 4-in. or 5-in. hydraulic cement concrete base. S. Frank Stanley, city recorder.

Ogden, Utah—Plans being prepared by Jos. M. Tracey, city engr., to pave 14 blocks, total of 2 mi., in paving dist. No. 125, with 3-in. asphalt binder on 6-in. concrete base.

Sandpoint, Idaho.—County (Robt. S. McCrea, co. clk.) intends constructing 15 miles and surfacing 10 miles with gravel.

BIDS DESIRED

Newport, Vt.—Reported desired until Apr. 16, for 9500 sq. yd. concrete pavement, 4000 ft. concrete curb and 3500 sq. yd. concrete sidewalk; address J. O. Goodrich, supt. streets.

Springfield, Mass.—Until March 29, by F. H. Clark, supt. sts. and eng., for furnishing trap rock, sidewalk, sewer and well bricks, etc., for Dept. Streets.

Albany, N. Y.—Until April 6, by Edwin Duffey, state highway comr., 55 Lancaster St., for repairing highways in various counties. April 9, for repairing highways in Albany, Chemung, and 21 other counties. April 11, for constructing roads in various counties. April 13, for repairing highways in various counties; advertised in this issue.

New York, N. Y.—Until March 28, by Marcus M. Marks, boro. pres., for regulating and repaving with sheet asphalt on concrete foundations portions of 49th, 125th, 209th and Cooper Sts. and 5th Ave., also for paving with granite block pavement portions of 6th Ave. and W. 190th St.; total security $26,300.

Until Mar. 29, by Douglas Mathewson, boro. pres., for constructing sewers and appurtenances in portions of W. 183rd St., also for regular grading, laying sidewalks and paving with bituminous concrete on cement concrete foundation, portions of E. 203rd, E. 166th Sts., total security $5,900.

Until April 10, by Bd. Water Supply, for Cont. 182, for applying surface treatment of refined tar and stone chips to about 4 miles of waterbound macadam pavement, advertised in this issue.

Oswego, N. Y.—Until Apr. 3 by Chas. Linsley, comr. of wks., for about 5800 sq. yd. vitr. block pavement on concrete foundation. Advertised in this issue.

Poughkeepsie, N. Y.—Until Apr. 5, by Bd. Pub. Wks. (E. W. Sylvester, supt.) for furnishing and applying asphaltic oil to about 300,000 sq. yd. of earth; advertised in this issue.

Avon, N. J.—Until Apr. 2, by Common Council (G. C. Stanton, boro. clk), for permanent paving of Mair St.

Bayonne, N. J.—Reported desired until April 15, for 50,000 sq. yd. asphalt and 3800 sq. yd. granite block pavement; address W. L. Clarkson, city engr.

Bloomfield, N. J.—Until Apr. 2, by Raymond F. Davis, town clk., for furnishing and spreading road oil, in all about 80,000 gal. for the year 1917.

Lyndhurst, N. J.—See "Water and Sewers."

Malaga, N. J.—Until April 9, by Bd. Freeholders at Salem, for constructing 6th section of Malaga-Pennsgrove Road.

Newark, N. J.—Until April 12, by Bd. St. and Water Comrs., for paving portions of Ferry St. with broken stone, Mt. Pleasant Ave. with 2 asphalt on concrete and with 4" wood block.

Trenton, N. J.—Until Mar. 27 by Bd. Freeholders for furnishing and applying liquid asphalt on Trenton-Lawrenceville-Princeton Road and on Greenwood Ave. (William P. Conard, dir. road repair).

Clearfield, Pa.—Reported desired until Apr. 15, by A. E. Leitzinger, supt. dept. highways, for cement and castings for paving 2½ mi. of road.

Darby, Pa.—Until Apr. 2 by boro. for roadway improvements. A. F. Damon, Jr., boro. engr.

Greensburg, Pa.—Until April 10, by John S. Sell, Co. Controller, for paving following roads Webster-Pittsburg Road in, and Uniontown Road with about 16,840 sq. yd. brick pavement, in all about 1.79 mile. Ft. Robinson School House, Yukon Road, 3.23 miles long with 30,286 sq. yd. brick paving, and 4 other roads, together with curbing, gutters, etc.

Mahonoy City, Pa.—Reported desired until Apr. 5 by R. J. Griffith, chmn. street committee, 105 Mahonoy Ave., for grading, paving and improving E. and W. Center, Pine Sts., and Mahonoy Ave. and other streets, in all about 20,000 sq. yd. pavement.

Gate City, Va.—Until March 31, by City Clk., for grading about 58 miles in Scott Co. G. P. Coleman, state highway comr., Richmond.

Fairmont, W. Va.—Until April 16, by A. G. Martin, clk., co. court, for furnishing stone, slag, gravel and sand for constructing about 32 miles in Lincoln Dist., advertised in this issue.

Fairmont, W. Va.—Until April 27, by Co. Court (A. G. Martin, clk.), for constructing about 31 miles of improved roads. Until April 16, by above, for furnishing slag, stone, gravel, sand, etc., for constructing about 22 miles of roads. Until April 25, by above, for constructing about 22 miles of roads; advertised in this issue.

Huntington, W. Va.—Until Apr. 2, by O. H. Wells, comr. sts. and sewers, for paving portion of 8th Ave., Winters Road, 2nd St., and 4 other streets and for constructing vitrified tile sewers in portions of various alleys.

Welch, W. Va.—Until Mar. 31 by Co. Court (W. W. White, clk.) for grading, widening and surfacing with cement, brick or other material public roads in Adkins, Brown's Creek, Elkhorn and Norfolk Dists., in all about 65 miles.

Hamlet, N. C.—Reported desired until April 3, by Mayor and Bd. Comrs. (L. R. Terry, clk.) for constructing 50,000 lin. ft. concrete curb and gutter, 25,000 sq. yd. sidewalk, 20,000 cu. yd. grading, drainage, etc. Gilbert C. White, engr., Durham.

Newbern, N. C.—Until April 2, by Co. Comrs. (Stephen H. Fowler, clk.), for constructing about 50 mi. of concrete roads 9 ft. wide, with concrete curb.

Smithfield, N. C.—Until April 6, by Mayor and Aldermen (N. M. Lawrence, clk.), for constructing 15,000 sq. ft. asphalt, bitulithic or other pavement, together with curbing, sidewalks, etc., advertised in this issue.

Palatka, Fla.—Until April 4, by Bd. Co. Comrs. (R. J. Hancock, clk.), for grading, clearing and surfacing about 17.7 mi. of road in special Road and Bridge Dist. No. 3.

Greenville, Miss.—Reported desired until Apr. 3, by City Council, for (Wm. Urquhart, clk.) for 100,000 gal. No. 5 liquid road oil.

Barbourville, Ky.—Until April 3 (change of date), by Read P. Black, clk. bd. superv., for macadamizing road in Bell Co. and Laurel Co.

Hazard, Ky.—Until April 2, by W. M. Pursifull, mayor, for about 21,000 yd. vitr. brick street paving, with necessary grading and concrete work.

Cadiz, O.—Until about May 1, by Hartzell R. McCay, co. highway supt., for grading and paving Tippecanoe Road; cost about $16,000.

Cincinnati, O.—Until April 6, by Bd. Co. Comrs. (Albert Reinhardt, clk.) for repairing Harrison Pike, Cincinnati Ave. and numerous other roads.

Columbus, O.—Until March 30, by Clinton Cowen, state highway comr., for improving Sec. A., Cincinnati-Hamilton Road I. C. H. No. 39, in Springfield and Colerain Twps., about 4.82 miles for grading, constructing bridges and culverts and paving with either brick; cost, $191,409; reinforced concrete, $140,365; bitulithic, $183,057.

Cleveland, O.—Until April 4, by Co. Comrs. (E. G. Krause, clk.) for grading, draining, paving, etc., Porter Road; certified check for $1,000 to accompany bid.

Wauseon, O.—Road bonds for $161,500 will be sold Apr. 13, by W. W. Ackerman, co. aud.

Detroit, Mich.—Until Mar. 31, by Detroit Golf Club (W. G. Lerchen, secy.), for constructing pavement and sidewalks; work includes about 23,000 sq. yd. pavement; alternate bids on 7-in. one course concrete, 5-in. base with 2-in. asphaltic concrete wearing surface, about 19,000 lin. ft. curbing, 87,000 sq. ft. sidewalk, together with catch basins, etc.

Marshall, Mich.—Until April 4, by Road Comrs. (Geo. R. Peet, chmn.), for constructing 5.765 miles of pavements, advertised in this issue.

Illinois.—Until March 28, by State Highway Comn., at Springfield, for constructing following roads: Manlius, Sec. E., Bureau Co., 3700 ft. concrete, cost about $9,333; Elliot, Sec. C., Ford Co., 4300 ft. concrete road, cost about $9,341; Urbana, Sec. E., Champaign Co., 4950 ft. brick road, cost about $12,664; Sec. G, same length, cost about $12,982; Champaign, Sec. J, Champaign Co., 4950 ft. brick road, cost about $12,477; Woodstock, Sec. I, McHenry Co., 10,500 ft. gravel road, cost about $12,920; Sec. J, 11,500 ft. gravel road, cost about $13,138; Shirley, Sec. A, McLean Co., 67,286 ft. earth road, cost about $31,663; Cooksville (Bloomington P. O.), Sec. C, McLean Co., 133,000 ft. earth road; cost about $53,717; E. St. Louis, Sec. E, St. Clair Co., 18,446 ft. waterbound macadam road, cost about $20,574; Rockford, Sec. E, Winnebago Co., 9485 ft. concrete road; cost about $23,260; S. Elmhurst, Sec. D, Du Page Co., 4300 ft. waterbound macadam road, cost about $18,781.

Avoca, Ia.—Until Apr. 4, by Town Council for 18,000 lin. ft. curb and gutter, 27,000 sq. yd. concrete, vitrified block, monolithic block, vertical fiber and asphaltic concrete pavement; Chas. E. Wilson, engr., Gamble Blk., Perry, Ia.

Paris, Ia.—Reports desired until Apr. 2, by P. W. Norton, town clk., for grading in township during 1917.

Sibley, Ia.—Until Apr. 4 by Bd. Superv. for grading 14 miles of road, in all about 48,879 cu. yd. D. W. Clayton, co. aud.

Sioux City, Ia.—Until Apr. 3 by Co. Aud. for about 141,753 cu. yd. grading, in all about 17 miles of county road, and improving two railway crossings. J. C. McLean, co. engr.

Glenwood, Minn.—Until Mar. 28 by Ole Irgens, co. aud., for constructing roads Nos. 1701 to 1707, consisting of 83,540 cu. yd. grading, cost about $19,654.

Mankato, Kan.—Until Mar. 27 by City Clk. for constructing 10,000 sq. yd. concrete, asphaltic concrete and brick pavement, curbing and guttering and excavation. O. E. Noble, engr., Court House Bldg., Manhattan.

Pittsburg, Kan.—Until Mar. 28, by city, repaving 7000 yd. and paving 40,000 yd., bids to be received on asphaltic concrete, brick, National paving, and concrete; L. E. Curfman, city engr.

St. Louis, Mo.—Reported desired until Mar. 30 by Bd. Pub. Wks. (E. R. Kinsey, pres.) for paving portions of Prather, Garner, Thrus and two other avenues; cost about $105,600.

South Bend, Wash.—Until Apr. 4, by W. E. Lovering, co. aud., for constructing truss and span approaches across South Fork of Willapa River; also for clearing, grading, draining, etc., portions National Park Highway; C. S. B. Henry, co. engr.

Astoria, Ore.—Until March 31, by J. C. Clinton, co. clk., for clearing, grubbing, grading, draining, etc., portions of Astoria-Nehalem Road, including about 12,150 cu. yd. common excavation, 1630 cu. yd. riprap, etc.; cost about $12,514.

Seal Beach, Cal.—Until about Apr. 12, by John MacMillan, city clk., for paving portions of Main St., and Ocean Ave., with 4-in. concrete base, oil top.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Boston, Mass.**—Contract awarded by Wm. J. M. Glencky, superv. contracts (bids opened Mar. 12) to Central Const. Co., 228 Southampton St., Roxbury, Mass., at $39,200, for asphalt repair work.

★**Buffalo, N. Y.**—Contract awarded by city to E. C. Burgard Paving Co., 1968 Fillmore Ave., Buffalo, to repave portion of Sycamore St. with asphalt at $1.20 per sq. yd.; total estimated cost $25,000. A. W. Kreinheder, comr. pub. wks.

★**Massachusetts.** — Following are bids opened March 20 by State Highway Comn., Boston, Mass., to construct sections of state highways: In Northampton, Kiley & Gleason, Northampton, $22,255; Cordna & Montague, Springfield, $27,564; Perini & Bianchi, Ashland, $31,004. In Ware, Columbus Constr. Co., Boston, $28,677 (awarded contract); Luchini & Manzoni, Milford, $30,225; Perini & Bianchi, $32,073. In Hanover, Edward J. Rourke, Abington, $16,377 (awarded contract); Powers Brother, Brocton, $18,287; W. F. Loud & Sons, Quincy, $19,993. In Williamstown, Perini & Bianchi, $27,161 (awarded contract); Davis & Brock, Brookline, $27,514; Alco Contr. Co., North St., Boston, $29,341.

★**Rockaway, L. I., N. Y.**—Contract awarded by State Highway Dept., Albany, N. Y. (bids opened Feb. 20) to H. J. Mullen Contr. Co., Jamaica, L. I., N. Y., at $114,209 to pave about 32,300 sq. yd. with asphalt blocks on Burnside Ave. and Rockaway Turnpike.

New York, N. Y.—Following are bids opened Mar. 15 by Park Bd., Municipal Bldg., New York City, to repave with sheet asphalt and asphalt blocks on concrete base, portion of Eastern Blvd., Boro. Bronx.: (a) Davney Asphalt Co., Inc., 52 Vanderbilt Ave., New York City, $51,221. (b) Uvalde Asphalt Paving Co., 1 Broadway, New York City, $52,050. (c) The Asphalt Constr. Co., 208 Broadway, New York City, $52,825.

	(a)	(b)	(c)
2,000 cu. yds. excavation..	$1.55	$1.45	$1.50
3,100 cu. yds. Portland cement concrete	6.04	6.80	6.50
16,550 sq. yds. sheet asphalt pavement	1.45	1.40	1.50
2,000 sq. yds. asphalt block pavement	2.40	2.00	2.05
600 lin. ft. 12-in. vitrified drain pipe	1.00	1.50	1.25

★**Watervliet, N. Y.**—Contract awarded by city (bids opened Mar. 12) to Thos. F. Shaughnessy, Albany, N. Y., at $172,815, to pave with granite block on concrete base, portions of 31st Ave., 9th St. and Bway. Chas. F. Polk, city clk.

Brooklyn, N. Y.—Following are bids opened Mar. 15 by Park Bd., Municipal Bldg., New York City, for improvement of Eastern Parkway extension between Ralph and Bushwick Aves., Brooklyn: (a) Uvalde Asphalt Paving Co., 1 Bway., New York City, $147,977; (b) Borough Asphalt Co., 1301 Metropolitan Ave., Brooklyn, $148,629; (c) Brooklyn Alcatraz Asphalt Co., 407 Hamilton Ave., Brooklyn, $152,848.

	(a)	(b)	(c)
10,960 cu. yd. regulating and grading	$1.00	$1.00	$1.05
38,900 sq. yd. old asphalt removed	0.20	0.30	0.20
3,460 lin. ft. old bluestone curb reset	0.75	0.90	0.75
19,260 lin. ft. new bluestone curb	1.25	1.25	1.25
50 lin. ft. granite header stone	1.25	1.50	1.25
3,960 sq. ft. cement sidewalk	0.20	0.20	0.22
4,200 cu. yd. concrete pavement, foundation	6.00	6.00	6.25
51,545 sq. yd. asphaltic concrete (natural)	1.30	1.22	1.35
10 cu. yd. asphaltic concrete, additional	20.00	20.00	2.00
4 sewer basins rebuilt	100.00	60.00	100.00
2,145 cu. yd. top soil	1.50	1.60	1.50
71,730 sq. ft. sod	0.04	0.03	0.05
415 lin. ft. 1¼-in. lead water pipe	1.25	1.45	1.25
216 lin. ft. 2-in. lead water pipe	1.55	1.65	1.60
1,306 lin. ft. 1¼-in. galvanized steel water pipe	0.65	0.95	0.70
1,202 lin. ft. 2-in. galvanized steel water pipe	0.75	1.15	0.75
28 loose key hose boxes	5.50	4.50	5.50
12 1¼-in. bronze gate valves	3.25	7.25	3.30
5 2-in. bronze gate valves	4.00	8.00	4.50
51,545 sq. yd. asphaltic concrete (distilled)	...	1.22	...

Morgantown, W. Va.—Following are bids opened Mar. 15 by county (W. S. Downs, co. engr.) to pave Kingwood Pike No. 3: (A) Thoney Pietro, Morgantown, W. Va., with (a) concrete, $50,743; with (b) brick, $55,868; (B) P. F. Rhodes & Son, McKeesport, Pat., with (a) $60,122, (b) $68,202; (C) Ridge Bros., Pittsburgh, Pa., (a) $67,838, (b) $60,075; (D) Hottell Constr. Co., Pulaski, Va., (a) $77,419; Sabbatton-Dellslow road No. 4, Thoney Pietro, (a) $28,840, (b) $36,617; Ridge Bros., (a) $34,860, (b) $39,494; Thoney Pietro only bidder on following roads, Stewartstown, (a) $23,551, (b) $29,152; Chestnut Ridge, (a) $29,642, (b) $31,231; Charles Ave. No. 10, macadam, $15,513, (a) $16,356, (b) $19,828.

Following are unit bids on Kingwood Pike:

	A		B		C		D
	(b)	(a)	(b)	(a)	(b)	(a)	(a)
9,800 cu. yd. excavation (unclassified)	$0.70	$0.70	$0.80	$0.80	$0.75	$0.75	$1.05
1,000 cu. yd. overhaul (beyond 1500 ft.)	0.05	0.05	0.05	0.05	0.05	0.05	0.03
10 cu. yd. plain concrete masonry, class "A"	11.00	11.00	12.50	12.50	10.00	10.00	11.00
10 cu. yd. plain concrete masonry, class "B"	10.00	10.00	12.00	12.00	9.50	9.50	10.50
10 standard sewer heads, each	10.00	10.00	10.00	10.00	15.00	15.00	3.00
12 standard catchbasins, each	30.00	30.00	20.00	20.00	25.00	25.00	15.00
500 cu. yd. crushed stone	1.00	1.00	4.00	4.00	3.00	3.00	4.50
1,000 sq. yd. cobble stone paving for gutters	1.50	1.50	0.75	0.75	0.50	0.50	1.00
2,600 cu. yd. concrete foundation (brick)	7.50	...	8.50	...	9.00	...	...
14,700 sq. yd. brick paving	1.20	...	1.60	...	1.34	...	...
4,100 cu. yd. concrete paving	...	7.90	...	9.40	...	12.00	13.00
14,700 sq. yd. cement-sand cushion	0.15	...	0.30	...	0.125	...	...
14,700 sq. yd. cement-grout filler	0.15	...	0.15	...	0.10	...	...
22,900 lin. ft. expansion joint (brick)	0.05	...	0.05	...	0.04	...	...
5,900 lin. ft. armored expansion joint (concrete)	...	0.20	...	0.30	...	0.15	0.30
20,000 sq. yd. metal reinforcing (concrete paving)	...	0.20	...	0.25	...	0.25	0.15
30 lin. ft. vitrified sewer culvert—D. 24 in.	3.50	3.50	2.80	2.80	2.00	2.00	2.25
64 lin. ft. vitrified sewer culvert—D. 18 in.	2.50	2.50	1.80	1.80	1.50	1.50	1.50
420 lin. ft. vitrified sewer culvert—D. 12 in.	1.25	1.25	0.95	0.95	0.75	0.75	0.75
144 lin. ft. vitrified sewer culvert—D. 10 in.	1.10	1.10	0.80	0.80	0.65	0.65	0.65
40 lin. ft. vitrified sewer culvert—D. 8 in.	1.00	1.00	0.60	0.60	0.60	0.60	0.55
300 lin. ft. french drain—6-in. drain tile	0.50	0.50	0.40	0.40	0.40	0.40	0.45
2,000 lin. ft. french drain—4-in. drain tile	0.48	0.48	0.35	0.35	0.30	0.30	0.38
100 lin. ft. french drain—6-in. bell joint tile	0.55	0.55	0.50	0.50	0.45	0.45	0.50
300 lin. ft. french drain—4-in. bell joint tile	0.50	0.50	0.40	0.40	0.35	0.35	0.45
200 lin. ft. french or blind drain (no tile)	0.45	0.45	0.30	0.30	0.25	0.25	0.40
300 cu. yd. dry rubble masonry	4.00	4.00	6.00	6.00	4.00	4.00	12.00

St. George, S. I., N. Y.—Following are lowest bids opened Mar. 13 by Boro. Pres., Borough Hall, for furnishing and delivering 120,000 gal. bituminous material for road surfacing: United Gas Impt. Co., Broad and Arch Sts., Philadelphia, Pa., at $8,916 ($0.743 per gal.); Barrett Mfg Co., 17 Battery Place, New York, at $8,040 ($0.067); for 300,000 gal., Standard Oil Co., 26 Bway., New York City, at $18,150 ($0.0605).

★**Burlington, N. J.**—Contract awarded by county to Lambertville Stone Quarry Co., Lambertville, N. J., for broken stone and screenings for repair of roads in county.

★**Westfield, N. J.**—Contract awarded by town to Weldon Contr. Co., at $17,456, to improve parts of Hillcrest, Kimball and Union Aves.

Franklin, Pa.—Lowest bid opened March by James G. Crawford, city clk., to pave with brick on concrete base and construct concrete curbs and gutters, was from Geo. M. Harris, Meadville, Pa., at $23,500. John McK. Snow, city engr.

★**Roaring Spring, Pa.**—Contract awarded by State Highway Comn., Harrisburg, to John S. Vipond, Altoona, Pa., to construct 13 miles of road in Blair and Bedford Cos. from here via East Sharpsburg, Martinsburg, Curryville, Woodbury to near Waterside.

★**Baltimore, Md.**—Contract awarded by State Roads Comn. (Clyde H. Wilson, secy., Baltimore) to E. Ward Brown, Port Deposit, Md., at $73,086, for contract Ce-9, to construct 3.43 miles, and to Potomac Engr. & Contr. Co., Baltimore, Md., at $55,460, for contract F-25, to construct 3.07 miles, both 15-ft. wide concrete roads.

★**Monroe, N. C.**—Contract awarded by Bd. Alderman to Gulf Paving Co., Chattanooga, Tenn., to pave with sheet asphalt portions of Main, Hayne, Church and 4 other streets, also construction of sidewalks and gutters on W. Franklin, W. Jefferson, Morris and other residential streets.

★**Rocky Mount, N. C.**—Contract awarded by city (bids opened Mar. 16) to R. G. Lassiter & Co., Raleigh, N. C., at $1.95 per sq. yd., to pave 19,000 sq. yds. on Falls Road with standard bitulithic on concrete base, also construct 7000 lin. ft. concrete curb and gutters. C. H. Harris, city clk.

★**Waycross, Ga.**—Contract awarded by city to Georgia Engr. Co., Augusta, Ga., in early part of 1916, and later enjoined, to pave 8000 sq. yds. with brick, was recently affirmed by Supreme Court. H. M. Pafford, city engr.

★**Jacksonville, Fla.**—Contract awarded by L. D. Smoot, comr. pub. wks. (bids opened Feb. 28) to Atlantic Bitulithic Co., Richmond, Va., at $54,501, to pave 18,746 sq. yds., with bitulithic and 1514 sq. yds. vitrified block gutter.

★**Lake Charles, La.**—Contract awarded March 7 by Calcasieu Parish Police Jury to Wm. McCorquodale, Lake Charles, La., at $13,700 to construct first 2 sections and to L. M. Kirkes, Starks, La., last 2 sections of Sulphur-De Quincy highway; total estimated cost, including gravel, which is being furnished by parish, is $75,000; to Healy Constr. Co., Meridian, Miss., at $50,329, to construct Lake Charles-Hayes road, 4-mile road east of this city and extension to Sweet Lake dist. road.

★**Lexington, Ky.**—Contract awarded by city to Carey-Reed Co., local, at $26,566, to pave with asphalt portions of Georgetown and Mechanic Sts. and North Bway.

Newburg Heights (Newburg, P. O.), O.—Contract awarded by city to Enterprise Paving & Constr. Co., 8400 Bway., Cleveland, O., at about $90,000, to improve several streets.

★**Rushville, Ind.**—Contract awarded by Rush County to Edw. G. Gant, Greenfield, at $42,250, to construct concrete road requiring 24,800 sq. yd. paving.

★**Sullivan, Ind.**—Contracts awarded Mar. 6 by Co. Comrs. as follows: To S. R. Adams & Co., Princeton, Ind., at $17,500, for road in Hamilton Twp.; to Daugherty & Wible, at $15,490, for road in Turman Twp., and at $11,750, for road in Hadden Twp., to Joe. R. Loudemilk, Sullivan, Ind., at $13,200, for road in Gill Twp.

★**St. Johns, Mich.**—Contract awarded by city (bids opened March 8) to Marsman & Green, Grand Rapids, Mich., at $10,500, to pave portions of Linden and Maple Aves., Case and Higham Sts. Wm. Cochrane, city clk.

★**Boone, Ia.**—Contract awarded by city (bids opened Mar. 6) to Tony Amodeo, Des Moines, Ia., to construct 90,000 lin. ft. curb and gutter work for which 19 bids received, were between 55c. and 90c. per lin. ft. R. McCormick, city engr.

★**Burlington, Ia.**—Contract awarded by city (bids opened Mar. 15) to Burlington Constr. Co., Burlington, Ia., at $2.07 per sq. yd., for 7300 sq. yd. brick pavement on 6-in. concrete base and necessary curbing; contract not awarded for 5000 sq. yd. 7-in. concrete and necessary curbing on South Main St. C. E. Waterhouse, city engr.

★**Ivanhoe, Minn.**—Contract awarded by county (bids opened March 6) to Hammond & Trybom, Russell, Minn., to construct all state roads in county during this year. Karl A. Hansen, co. aud.

Connell, Wash.—Following are lowest bids opened Mar. 12 by county to grade and gravel highway near here: Jane & Donnell, Ritzville, Wash., $14,359; Braenard & Grosscup, Richland, Wash., $15,109; H. L. Wilson, Walla Walla, Wash., $15,352; M. J. Conley, Eltopia, Wash., $15,462. L. D. Found, co. aud.

Seattle, Wash.—Lowest bid opened by county (N. M. Wardall, co. aud.) to construct Julia Blinn road, was from Rienseth Bros., Everett, Wash., at $22,500 (engr.'s estimate, $22,919).

★**Spokane, Wash.**—Contract awarded by city (bids opened March 1) to Standard Oil Co., Spokane, Wash., at $20.10 per ton for furnishing asphalt for city's needs during 1917. C. T. Bogart, city purchas. agt.

Fillmore, Cal.—Lowest bid opened Mar. 13 by Bd. Supervs. to construct 7.54 miles of road, 16 ft. wide, on Div. 3, Fillmore to Piru road, involving 28,300 cu. yds. excav.; 39,794 lin. ft. grading, 7906 cu. yds. "B" concrete pavement, 478 cu. yd. "B" concrete and 32,850 lbs. reinforcing steel in culverts, was from Brashear-Burns Co., La Brea road and Willshire Blvd., Los Angeles, Cal.

★**Modesto, Cal.**—Following are contracts recently awarded by county: To Bates, Borland & Ayer, Oakland Bank of Savings Bldg., Oakland Cal., at $188,617 for paving, at $1.50 per ft. for laying corrugated metal pipe, $0.60 and $0.40 per cu. yd. for excav., on 9.114 miles of Crows Landing and Grayson highway; to Mesmer & Rice, Marsh-Strong Bldg., Los Angeles, at $91,400 for paving, at $3.00, $2.00 and $1.25 for pipe and $1.25 and $0.50 per excav., on 9.464 miles of Newman-Wesley highway; to White & Gaskill, Long Beach, Cal., at $73,000 for paving, $1.50 for pipe and $0.48 for excav. on 7.771 miles of Waterford highway; to Bent Bros., Central Bldg., Los Angeles, at $71,850 for paving, $1.40 and $1.10 for pipe and $0.38 for excav. on 7.009 miles of Oakdale, Oakdale-Thalheim and Oakdale-Waterford highways; to McGillivray Constr. Co., Capitol National Bank Bldg., Sacramento, Cal., at $66,935, $1.30 for pipe and $0.60 for excav. on 7.483 miles of Glendora highway.

★**Ontario, Cal.**—Contract awarded by county (bids opened Feb. 17) to J. S. Miller, Santa Monica, Cal., at 45c. per cu. yd. for excav. and at $2 per sq. yd. for concrete paving on portion of Ontario Blvd., 5825 ft. long, and at 40c. per cu. yd. for excav. and $2.15 per sq. yd. for concrete paving on Euclid Ave. L. R. Patty, co. clk., San Bernardino.

★**San Rafael, Cal.**—Contract awarded by Marin Municipal Water Dist. to R. B. Markle, Jr., Hearst Bldg., San Francisco, at $18,976, to construct highway along their pipe line.

Douglas, Ariz.—Lowest bid opened March 5 by City (Geo. N. Wood, city engr.) to pave 140,000 sq. yd. with Topeka on concrete base, was from S-C Contr. Co., Title Ins. Bldg., Los Angeles, Cal., at about $320,000.

RAILWAYS
Steam and Electric

PROPOSED WORK

Kingston, N. Y.—E. L. Abbott, asst. grade crossing engr., West Shore RR., reported to City Council that elimination of Broadway grade crossings would cost about $240,000.

Bridgeton, N. J.—Central RR. of New Jersey (A. E. Owen, ch. engr., New York City) plans to extend its lines from here to Deerfield.

Newark, N. J.—Governor Edge signed bill authorizing the Bd. of Wks. to grant a franchise to the Hudson & Manhattan R. R. (Pennsylvania R. R., Alex. C. Shand, ch. engr., Philadelphia) for extension of its lines to the Military Park terminal of the Pub. Service Electric Co.

Altoona, Pa.—Altoona & Logan Valley Electric Ry. (S. S. Crane, gen. mgr.) plans 1½-mile extension to road during the summer.

Johnstown, Pa.—Johnstown Traction Co. (E. M. Du Pont, gen. mgr.) has asked City Council for franchise to construct a line in the 7th ward and another in 17th ward. In return for franchise the company is willing to give city 50 acres of land for park purposes.

Philadelphia, Pa.—Pennsylvania RR. Co. (Alex. C. Shand, ch. engr.) plans spending $75,000,000 for extensions, enlarging Broad St. Terminal facilities and constructing new Broad St. Station.

Charlotte, N. C.—Bonds for $4,000,000 will be issued by Atlanta-Charlotte RR. Co. to double track from here to Spartanburg.

Columbia, S. C.—Columbia Ry., Gas & Electric Co. (Alfred Wallace, gen. mgr., Arcade Bldg.) plans extending its line on Hardin St.

Birmingham, Ala.—Birmingham Southern RR. (J. B. McIntyre, ch. engr., Fairfield) reported considering 9-mile extension to Warrior River.

Reported construction of electric railway between here and Jasper, a distance of 35 miles northeast of city, under consideration by New York capital. Geo. B. Tarrant of Birmingham and others are interested. Geo. H. Clarke, engr.

Jackson, Tenn.—Bonds for $100,000 voted to be used for extending Gulf, Mobile & Northern RR. (B. V. Wright, ch. engr., Laurel, Miss.), from Jackson to Middleton.

Fruitdale, Ind.—Construction of electric railway from Fruitdale to Brownstown, via Nashville, is being considered. W. J. Davis, ch. engr., Tipton-Frankfort Traction Co., Tipton, reported interested.

Indianapolis, Ind.—Terre Haute, Indianapolis & Eastern Traction Co. (Robt. I. Todd, vice-pres., Indianapolis) has asked the Bd. Pub. Wks. for permission to construct an additional track on its Terre Haute division from Holmes Ave. thence northwest over the company's right-of-way to the Indianapolis Motor Speedway.

Indianapolis Traction & Terminal Co. (Robert I. Todd, gen. mgr.) plans 2 extensions to its West Michigan St. line.

Quincy, Ill.—Quincy Railway (W. L. Peters, ch. engr.) plans constructing loops at the ends of several lines, including the Soldiers' Home, 10th St., Broadway and Depot lines; will also lay new ties, repair tracks, new pavement and make improvements to the roadbed.

Richmond Heights, Mo.—Bd. of Aldermen of City granted franchise to the United Railways for construction of line through eastern part of Richmond Heights, north and south.

Gainesville, Tex.—Reports state construction of steam railroad from here to Weatherford, a distance of 100 mi., being considered by promoting company. H. L. Moseley, atty., Weatherford.

Houston, Tex.—Ship Channel Transportation Co., has been organized with a capital of $60,000, to construct interurban line from Houston to Goose Creek. Ed. Kennedy, Houston, and L. B. Mitchell, Chicago, reported interested.

Los Angeles, Cal.—Pacific Electric Ry. Co. (G. E. Pillsbury, ch. engr.) secured permission from the State RR. Comn., to construct spur track across Covina Blvd., Railroad Ave., Clark St. and Los Angeles St., near Vineland, Los Angeles Co.

BIDS DESIRED

Lake Toxaway, N. C.—Until Mar. 31 (change of date), by Robert S. Brown, ch. engr., Legal Bldg., Asheville, N. C., for grading about 6 mi. of standard gage logging railroad from junction of Southern Ry. here to Cold Mt. Gap.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Bozeman, Mont.**—Contract awarded by Northern Pacific Ry. (H. E. Stevens, ch. engr., St. Paul, Minn.) for laying 33 miles of single track between here and Logan to Martin Woldson, Spokane, Wash.

★**Portland, Ore.**—Contract awarded by Oregon-Washington & Navigation Co. (S. Murray, ch. engr.) for excavating and track work for the regrade of the company's line through Sullivan's Gulch to Twohy Bros., Portland, for about $200,000, exclusive of materials for the overhead crossings, amounting to about $170,000 more. Work will be carried on at the same time that the City's part of grade changes are carried out under a contract let to Pearson Constr. Co., New York Block, Seattle.

★**Clarksdale, Ariz.**—Contract awarded by Verde Valley RR. (Atchison, Topeka & Santa Fe RR. (C. F. W. Felt, ch. engr., Chicago), for grading 3¾ mi. from here to Cottonwood, to Fleming & Stitzer, of Jerome; trestles, culverts and concrete work to Gilmore, Schwitters & Chesney, of Jerome, at $150,000.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK

Ansonia, Conn.—Plans prepared for American Brass Co. for erecting 320 x 98 ft. 1 and 2-story foundry building, 46 ft. high, of brick and steel, to cost about $150,000.

New Hampton, N. Y.—City of New York, Dept. Correction (Burdette G. Lewis, Comr. Municipal Bldg.) plans erecting Industrial building here to cost $75,000; also power house, laundry and stores, 1 story and basement, to cost about $161,585. C. B. Meyers, archt., 1 Union Sq., New York City.

Jersey City, N. J.—Joseph Dixon Crucible Co., Monmouth, will erect 3-story addition to present plant on Mercer St. to cost $250,000.

Blacklick, Pa.—Marshall Foundry Co., here, plans erecting addition to present plant to cost $100,000.

Manheim, Pa.—Reported United States Asbestos Co. plans erecting extensions to double capacity of plant, which now employs about 400 hands. S. R. Zimmerman and Chester L. Hill, Lancaster, owners.

Philadelphia, Pa.—See "Reinforced Concrete."

Reported Bureau Yards and Docks, Washington, D. C., will erect 4-story machine and electrical shop, 130 x 325 ft., at Navy Yard here.

Pittsburgh, Pa.—Bids being received by Hammond Packing Co., 301 Ferry St., for erecting 5-story fireproof cold storage plant to cost $200,000, at Hamilton Ave. and Lambert St., East End.

C. S. Hixon Candy Co., 1224 Vickroy St., plans erecting 4-story, 59 x 96 ft., candy factory building at Adams and Fulton Sts.

Newport News, Va.—Newport News Shipbuilding & Drydock Co. plans extensive improvements to present plant to cost $2,500,000.

San Francisco, Cal.—Following 4 lowest bids with unit figures opened Mar. 14 by city for construction of municipal railway from Market St. and Van Ness Ave. to 16th and Church Sts.: (a) Western Motor Drayage Co., 351 Noe St., $74,431; (b) Eaton & Smith, 407 11th St., $75,628; (c) Frank O'Shea, 405 Utah St., $79,996; (d) John Grace, $87,792; bidders all of San Francisco.

	(a)	(b)	(c)	(d)
32 ft. standard double-track construction, exclusive of pavement	5.50	5.00	5.50	5.85
9,822 ft. standard single-track construction, exclusive of pavement	2.55	2.77	2.70	2.97
1 crossover sheet No. 9, installation of	550.00	200.00	250.00	453.39
1 single by double-curve crossing, sheet No. 3, installation of	325.00	143.00	450.00	388.47
1 single by double-curve crossing, sheet No. 4, installation of	325.00	143.00	450.00	388.47
1 single by double-curve crossing, sheet No. 5, installation of	325.00	143.00	450.00	388.47
1 single by double-curve crossing, sheet No. 7, installation of	325.00	143.00	450.00	388.47
1 single by double-curve crossing, sheet No. 10, installation of	325.00	143.00	450.00	388.47
1 single by single-curve crossing, sheet No. 6, installation of	200.00	75.00	250.00	220.94
1 layout at Van Ness Ave. and Market St., sheet No. 2, installation of	1,100.00	450.00	1,100.00	1,686.16
1 layout at Church St. and Market St., sheet No. 8, installation of	1,750.00	600.00	2,300.00	3,787.69
1,275 cu. yds. excavation for conduit trenches	1.50	2.00	1.50	1.71
30,250 ft. fibre conduit, 3-in., installation of	.12	.13	.14	.12
300 ft. fibre conduit, 2-in. laterals, installation of	.20	.50	.25	.32
500 ft. black iron pipe conduit, 3-in., installation of	.30	1.00	.65	.69
500 ft. galvanized iron pipe conduit, 3-in., installation of	1.10	1.25	.75	.79
14 standard manholes of waterproof concrete	80.00	125.00	85.00	85.64
2 special manholes of waterproof concrete	100.00	150.00	115.00	104.54
800 ft. ironstone sewer pipe drains, 4-in.	.15	.75	.30	.29
58,500 sq. ft. asphalt pavement, 1½-in. top, 1½-in. binder, 6-in. concrete base	.17	.198	.20	.208
30,800 sq. ft. basalt block header pavement on concrete base	.51	.37	.52	.57
20,500 sq. ft. asphalt conform pavement	.095	.12	.10	.104
2,300 sq. ft. concrete base for conform pavement	.12	.20	.15	.17
12,500 sq. ft. artificial stone sidewalks	.10	.09	.13	.12
1,150 sq. ft. asphalt sidewalk	.10	.15	.07	.10
1 monument, Van Ness Ave. and Market St., relocation of	850.00	1,500.00	500.00	1,540.10
2 safety stations, relocation of	325.00	1,000.00	300.00	373.00
1,350 brazed terminal copper joint bands, 300,000 C. M.	1.84	1.71	1.75	1.97
40 brazed terminal copper cross bands, 4/0-5'-6"	3.48	3.30	3.50	3.80
5,250 ft. copper wire, 4/0 round	.548	.51	.60	.59

Richwood, W. Va.—Reported Wm. F. Mosser Co., here, plans erecting additional buildings and installing new machinery to cost $250,000.

Statesville, N. C.—Reported Sterling Mills Corporation recently incorporated with $150,000 capital, plans erecting 50,000-bush. grain elevator and 500 barrel daily capacity flour mill.

Macon, Ga.—Central Ry., Georgia (C. K. Lawrence, ch. engr., Savannah) plans erecting freight terminals to cost $500,000.

Cedar Grove, La.—Marine Oil & Refining Co., organized with $500,000 capital, and plans erecting $150,000 refinery with daily capacity 1200 barrels of oil.

New Orleans, La.—New Orleans Dock Bd. (Hayden W. Wren, pres.) plans erecting addition to cotton warehouses and public grain elevators to cost $4,000,000.

New Orleans, La.—See "Foundations, Piers and Dams."

Bismarck, N. D.—Reported Elliott Tile Co., Bismarck (W. J. Elliott, secy. and mgr., Dickinson), will erect new plant, to cost $150,000.

Fargo, N. D.—Equity Packing Co. plans erecting packing plant here to cost about $300,000. Main building brick, steel and reinforced concrete, 150 x 193 ft., 4-stories and basement.

La Moure, N. D.—Home Milling Co., organized, capital $150,000, plans erecting five flour mills. P. C. Crenshaw, 76 W. Monroe St., Chicago, Ill., reported interested.

Dallas, Tex.—Reported Miller Bros., Dallas and Ft. Worth, plan erecting $500,000 cotton mill.

Dallas, Tex.—Plans being prepared by C. R. & B. Miller, Dallas, for erecting cotton mill here to cost about $500,000.

Port Arthur, Tex.—Port Arthur Light & Power Co. plans erecting addition to present plant to cost $400,000.

San Antonio, Tex.—Reported Brown Cracker & Candy Co. plans erecting $150,000 plant here.

Spokane, Wash.—Plans being prepared by K. K. Cutter, of Cutter & Malmgren, archts., 1023 Riverside St., for Spokane Chronicle, to erect 6-story steel frame, 90 x 100-ft. newspaper building at corner of Sprague Ave. and Monroe St.; cost $250,000.

Los Angeles, Cal.—Plans being prepared by E. C. Thorne, Exchange Bldg., for erecting warehouses, grain elevators and additions to flour mill at 9th and Alameda Sts. for Great Western Milling Co., to cost about $200,000.

North Cobalt, Ont.—Reported car barns of Nipissing Central Ry., recently destroyed by fire, with loss of $130,000, will be rebuilt soon.

Harrow, Ont.—Plans being prepared by Quality Canning Co., McGregor, Ont. (Wm. Walls, mgr.) for erecting new plant here to cost $50,000.

Lambeth, Ont.—Company, in which T. H. Purdom, 383 King St., London, Can., is interested, purchased site and plans erecting million-dollar milk factory and condenser.

St. Thomas, Ont.—Plans being prepared by W. H. Heard, mgr. Spramotor Co., London, for erecting foundry and machine shops to cost $100,000.

Windsor, Ont.—Dodge Bros., Detroit, preparing plans for erecting branch factory here to cost $100,000.

BIDS DESIRED

Marlboro, Mass.—Reported desired until Apr. 22 by A. O. H. Bldg. Assn. for erecting 4-story, 40 x 48-ft. brick storage building. J. F. Bigelow, 64 Highland Ave., archt.

St. Juliens, Va.—Until Apr. 2 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Washington, D. C., for erecting steel frame store house building with corrugated steel siding, etc.

Waverly, Minn.—Until March 31, by Bd. Dirs. Waverly Creamery Assn. (J. C. Nolan, mgr.) for erecting creamery building. Creamery Eng. Co., Dassel, Minn.

London, Ont.—Until about April 1, by Beattie Bros. (Deacon, mgr.) for erecting foundry building, 160 x 140 ft., and cupola, 2 story, 48 x 48 ft., solid cement, foundry to be of brick and steel; cost about $50,000.

PRICES AND LETTINGS

★Indicates award of contract.

★Brooklyn, N. Y.—See "Reinforced Concrete."

Buffalo, N. Y.—C. H. Everitt, 295 Auburn Ave., Buffalo, was low bidder, at $169,827, for erecting operating houses and storehouse at Black Lock and Bridge. L. V. Frazier, major, corps engrs., U. S. A.

★Philadelphia, Pa.—Contract awarded Harrison C. Rea, 1027 Wood St., for erecting addition to machine shop of Hess-Bright Mfg. Co., at Front and Erie Ave., at cost of $50,000.

★Wilmington, N. C.—Contract awarded by Carolina Packing Co. for erecting abattoir to cost $150,000.

Canton, O.—Canton Storage Co. to erect 5-story, 74 x 123 ft. storage house at 318 to 338 Cherry Ave., N. E.; cost about $60,000. E. E. Elford, contractor in charge.

★Cincinnati, O.—Contract awarded by Peters Cartridge Co., 1st Natl Bank Bldg., to Wells-Gray Co., Toronto, Ont., for erecting additions to Kings Mills on Little Miami River, to cost $175,000.

Seattle, Wash.—Following are four lowest bids received Mar. 14 for erecting Hanford St. grain elevator to contain 30 circular bins, interspace bins, conveyor belts, etc.: Swenson & Co., 3065 Arcade Bldg., Seattle, at $115,246; W. T. Butler, Central Bldg., Seattle, at $119,990; Warrack Constr. Co., Arcade Bldg., Seattle, at $124,677; P. A. Harrington Co., Oriental Bldg., Seattle, at $125,600. G. F. Nicholson, ch. engr., Port of Seattle Comn.

Galt, Cal.—Utah Condensed Milk Co., 339 W. 2nd St., South, Salt Lake City, let contracts for erecting large condensed milk plant here to cost about $250,000.

BUILDINGS
Public and Private

PROPOSED WORK

Brooklyn, N. Y.—Plans prepared by Philip Caplan, archt., 16 Court St., for erecting 4-story garage, 100 x 100 ft., on S. W. corner B'way and Rutledge St., to cost $100,000, for J. Friedlander.

New York, N. Y.—Plans were prepared by F. F. French, Courtland Ave. & 148th St., New York City, for erecting two 6-story, 90 x 120 and 80 x 88 ft. elevator apartments at 97th St. and Central Park West, to cost $300,000.

Bayonne, N. J.—Bd. Educ. rejected all bids for erecting additions to 2 high schools as being too high; lowest bid was $273,000.

Montclair, N. J.—Congregation of Central Presbyterian Church plans erecting edifice here to cost $200,000. Wm. Y. Bogle, 85 Mountain Ave., Chmn. Comm.

Ocean City, N. J.—Meadowbrook Hotel Co. will erect hotel building to cost $2,000,000.

Trenton, N. J.—Plans being prepared by Klemann & Fowler, archts, 1st Nat'l Bank Bldg., Trenton, for erecting 4-story brick and steel addition to Goldberg Dept. store, to cost about $75,000.

Erie, Pa.—Knights of Columbus here will erect 5-story, 65 x 115 ft. building at 1118 Peach St., to cost $80,000.

Harrisburg, Pa.—State Branch Capitol Comn. made report to Legislature recommending purchase of property on Parkway and 20th St. for erecting new state building to cost about $500,000.

Johnstown, Pa.—Bd. Educ. plans erecting Junior High School building in near future.

Media, Pa.—Erection of county jail, insane asylum and home recommended by Grand Jury to Co. Comrs., Media, to cost $350,000.

Philadelphia, Pa.—Bids being received by Henry Dagit & Sons, archts., for erecting 3-story and basement, 90 x 61 ft. brick, stone and steel parochial school building at 48th St. and Waylusing Ave. for Our Mother of Sorrows Roman Catholic Church.

Pittsburgh, Pa.—Citizens voted $130,000 bond issue for erecting high school building at Aspinwall.

Pittsburgh, Pa.—Appropriation of $550,000 under consideration of State Legislature for erecting new buildings at University of Pittsburgh.

Reading, Pa.—Revised plans for proposed municipal hospital building completed and submitted to State Health Dept.

State College, Pa.—State Legislature considering $350,000 appropriation for erecting fireproof armory building here.

Wilson, Pa.—School Directors of Wilson Twp., adjoining Easton, plan erecting school building to cost about $150,000.

Yeadon, Pa.—School bonds for $65,000 will be sold Apr. 7, by Bd. School Directors.

Newark, Del.—Legislature has passed bill providing appropriation of $125,000 for erecting dormitory building for Women's College here.

Fitzgerald, Ga.—Plans for erecting $60,000 Post Office here will be issued shortly by Supv. Archt., Treasury Dept., Washington.

Ashland, Ky.—Bids will soon be asked by F. L. Packard, archt., Hayden Bldg., Columbus, for erecting building here to cost $100,000.

Arlington, O.—Bids will soon be asked by F. L. Packard, archt., Hayden Bldg., Columbus, for erecting school building here to cost about $60,000.

Cleveland, O.—Reported Bldg. Committee of Warrensville Tuberculosis sanitarium will erect $100,000 addition; work to begin April 7.

New Vienna, O.—Bids will sonn be asked by F. L. Packard, archt., Hayden Bldg., Columbus, for erecting school building here to cost $60,000.

Norwood (Cincinnati P. O.), O.—Bd. Educ. sold $125,000 bond issue for erecting Williams Ave. School building.

St. Paris, O.—Bonds for $75,000 for erecting school will be sold March 30 by Jesse Lewis, clk., Cree Sheets, Columbus, engr.

Milwaukee, Wis.—Reported Northwestern Bridge and Iron Co. will erect structural steel building at 27th and Hopkins Sts., 100 x 180 ft., to cost $50,000.

Davenport, Ia.—Plans completed by Temple and Burrows, Davenport, for erecting 5-story and basement, 42 x 155 ft. fireproof hospital bldg. for St. Luke's Hospital, to cost $125,000.

Iowa City, Ia.—City voted bond issue of $250,000 for erecting grade school buildings.

Brainerd, Minn.—O. H. Johnson, proprietor of 3-story Ransford Hotel, plans erecting 1-story addition and remodeling building, to cost $150,000.

Ironton, Minn.—Reported Ironton-Crosby School Bd. approved preliminary plans prepared by Architect E. F. Broomhall, 710 Alworth Bldg., Duluth, for erecting 7th grade brick school building on Ironton Ave. to cost $75,000.

Nashwauk, Minn.—Plans prepared by Tyrie & Chapman, 320 Auditorium Bldg., Minneapolis, for erecting school building, to cost $100,000.

Shakopee, Minn.—State Bd. Control, State Capitol, St. Paul, selected Shakopee for erecting Women's Reformatory; Legislature appropriated $235,000 for site and building.

St. Paul, Minn.—Contracts will soon be let for erecting $11,000,000 union station for St. Paul Union Depot Co. here.

St. Peter, Minn.—Bd. Directors plan erecting gymnasium for Gustavus Adolphus College to cost $50,000. Plans being prepared.

Wrenshall, Minn.—Plans being prepared by E. F. Broomhall, 710 Alworth Bldg., Duluth, for erecting school building to cost $60,000.

Omaha, Neb.—Preliminary plans being prepared by Richard Everett, 106 N. 15th St., for erecting reinforced concrete brick and stone apartment building to cost $85,000 for W. K. Craig, 1317 City Nat'l Bank Bldg.

Omaha, Neb.—See "Reinforced Concrete."

Kildeer, N. D.—Plans completed by W. D. Gillespie, Fargo, for erecting hospital building to cost $50,000.

Aberdeen, S. D.—Bd. of Regents announced plans for erecting dormitory for Northern Normal and Industrial School to cost $125,000.

Huron, S. D.—City voted to erect addition to local high school building at cost of $100,000 and city hall at cost of $80,000.

Conway, Ark.—Bd. Educ. plans erecting school building here to cost $100,000.

Dallas, Tex.—Reported Southland Life Insurance Co. (Harry L. Seay, pres.) plans erecting 10-story, 75 x 100 ft. building at s. w. corner of Commerce and Browder Sts. to cost $200,000. Lang & Witchell, archts., Southwestern Life Bldg.

Denton, Tex.—Plans completed by F. E. Robertson, 1304 S. W. Life Bldg., Dallas, for erecting dormitory for College of Industrial Arts here to cost $125,000.

North Yakima, Wash.—Reported Fred Chandler and A. R. Thiesen, realty dealers, will erect $75,000 business building here on 3rd St.

Olga, Wash.—Moran School for Boys, founded by Frank Moran, Rolling Bay, Wash., will erect school building here to cost $50,000.

Spokane, Wash.—Plans being prepared by B. Marcus Pretica, Pantages Theater Bldg., for Alexander Pantages, Seattle, for erecting theater building here to cost $125,000.

Tacoma, Wash.—Preliminary plans completed by Heath & Gove, Nat'l Realty Bldg., for erecting 2 and 3-story tourist hotel on shores of Lake Steilacoom, near here, to cost $150,000, for Charles A. Murray, Tacoma. Work to begin in summer.

Salem, Ore.—Plans prepared by Edgar M. Lazarus, archt., Portland, for Bd. Control, Salem, Ore., for erecting new wing to receiving ward of Oregon State Hospital, to cost $50,000.

Long Beach, Cal.—City plans erecting 5-story city hall and jail building to cost $300,000. Address J. R. Williams, Comr. Public Safety.

Sacramento, Cal.—City will hold election for issuing $2,600,000 bonds for erecting school buildings.

San Marino, Cal.—Election will be held for issuing $60,000 bonds for erecting school buildings in this district. Address Mark Keppel, supt. schools, Hall of Records Bldg., Los Angeles.

Phoenix, Ariz.—Arizona Products Co. plans erecting business block to cost about $250,000. Franklin D. Lane, representative.

Bd. Trustees, School Dist, No. 1 of Maricopa County, plan erecting 2-story brick grammar school building to cost about $100,000.

Trustees of First Church Christian plan erecting $50,000 church edifice. Rev. W. S. Buchanan, pastor.

Tucson, Ariz.—School bonds for $150,000 will be sold April 12 by B. L. Hitch, clk. bd. supervs.

BIDS DESIRED

Berlin, N. H.—Until Apr. 23 by Jas. A. Wetmore, superv. archt., Treas. Dept., Washington, D. C., for erecting U. S. post office building.

Bridgeport, Conn.—Until Mar. 28 (change of date), by Jas. A. Wetmore, superv. archt., Washington, D. C., for remodeling U. S. post office.

Dover, N. J.—Until March 31, by Bd. Educ., for erecting school building at Mine Hill. Chas. Coe., dist. clk., Mount Freedom.

Trenton, N. J.—Until April 7, by State Bd. Educ. (Thomas W. Synnott, chmn.) for erecting dormitory at school for deaf.

Turtle Creek, Pa.—Until Apr. 3 by School Dist., for erecting high school building; separate bids for plumbing, heating and ventilating. George H. Schwan, archt., Peoples Bank Bldg., Pittsburgh.

Abbeville, La.—Until April 4, by A. O. Landry, clk. police jury, for remodeling interior and sanitary equipment in Vermilion Parish Jail; advertised in this issue.

Newark, O.—Until April 10, by Bldg. Committe, Church of St. Francis de Sales (A. E. Willbert, chmn.) for erecting fireproof academy, convent and gymnasium; separate bids for heating, plumbing, etc. Howard & Merriam, 8 E. Broad St., Columbus, archts.

New Vienna, O.—Reported desired until April 6, by Bd. Educ., for erecting 2-story and basement grade and high school; cost about $70,000. Frank L. Packard, 1212 Hayden Bldg., Columbus, archt.

Tippecanoe City, O.—Until Apr. 2, by Bd. Educ. Bethlehem Twp. (C. W. Fry, clk.), R. F. D., Tippecanoe, for erecting centralized grade and high school. G. R. Walker & Co., Dayton, O., archts.

Knox, Ind.—Reported desired until April 3, by Chas. W. Weninger, co. aud., for erecting court house building.

Franklin, Wis.—Until Mar. 28 by Mississippi House College, for erecting dormitory and service building. J. F. Vitz, R.R. 29, Plymouth, archt.

Annandale, Minn.—Until about April 1, for erecting consolidated school building; cost about $50,000. C. Howard Parsons, 601 Phoenix Bldg., Minneapolis, archt.

Beltrami, Minn.—Until April 5, by School Bd. (E. W. Johnson, clk.) for erecting consolidated school building. E. F. Broomhall, 710 Alworth Bldg., Duluth, archt.

Clara City, Minn.—Until April 6, by Ind. School Dist. No. 62 (D. Grashius, clk.) for erecting grade and high school; separate bids for heating, plumbing, etc. Alban & Prins, 347 Endicott Bldg., St. Paul, archts.

Lakefield, Minn.—Until about April 1, for erecting 2-story high school building for Dist. No. 3; cost about $75,000. K. T. Snyder, 1133 Plymouth Bldg., Minneapolis, archt.

Waconia, Minn.—Until March 29, by Bd. Educ. (Paul J. Nimmer, clk.), for erecting 2-story, 60 x 110, semi-fireproof, high and grade school building. Kirby T. Snyder, 1133 Plymouth Bldg., Minneapolis, archt.

Arkansas City, Kan.—Reported desired until March 27, by W. M. Stryker, secy. bd. educ., for erecting 2-story and basement high school building. T. W. Williamson & Co., Topeka, archt.

Omaha, Neb.—Until about May 1, for erecting 14-story 132 x 132 ft. steel, concrete and brick office building for Nebraska Telephone Co.; cost about $850,000. Geo. Prinz, National Bank Bldg., archt.

York, Neb.—Until March 29, by York Hotel Co., for erecting 6-story, 90 x 118 ft., 6-story and basement steel and reinforced concrete hotel building; cost about $100,000. Frederick W. Clarke, 682 Brandies Theater Bldg., Omaha, archt.

Bowling Green, Mo.—Until April 16, by Co. Court (C. M. Davis, clk.) for erecting 3-story, stone-veneered court house building. H. H. Hohenschild, 312 Navarre Bldg., St. Louis, archt.

Las Cruces, N. M.—Until Apr. 20 by Jas. A. Wetmore, superv. archt., Treas. Dept., Washington, D. C., for erecting U. S. post office and court house.

Halifax, N. S.—Reported desired until April 1, by W. J. Busch, Bedford Row, archt., for erecting St. John's Presbyterian Church; cost about $50,000.

Lauzon, Que.—Until April 15, by P. Levesque, 115 St. John St., Quebec City, for erecting 5-story Scotch brick mansion for Chas. Guay; cost about $50,000.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Greenville, Pa.**—Contract awarded by Bd. Educ. for erecting Penn High School as follows: General, Kratt & Agnew, Lorain, O., at $164,637; electrical, Queen City Garage & Electric Co., Titusville, Pa., at $5,600; plumbing, Barnes & Clark, New Castle, Pa., at $10,330; heating, Lyle & Emery Co., New Castle, at $24,776.

★**Philadelphia, Pa.**—Contract awarded Furgeson & McDowell, 1003 S. 51st St., for erecting thirty 2-story, 15 x 70-ft. brick dwellings at 54th St., Warrington and Florence Aves.; cost $75,000.

Contract awarded George W. Riley, East Landsowne, for erecting 3-story brick and stone apartment house in Lansdowne. Heacock & Hokanson, archts.

Contract awarded W. Percival Johnson, 4039 Lancaster Ave., for erecting twenty 3-story brick, 110 x 200-ft. dwellings at 54th St., Woodbine and Wynnefield Ave., at $186,000.

★**Jacksonville, Fla.**—Contract awarded Irwin & Leighton for erecting passenger station, baggage building, etc., here, one and two-story, 757 x 360 ft. and 118 x 350 ft., brick, stone and concrete, to cost $750,000. Kenneth M. Muchinson, archt.

★**Cincinnati, O.**—Contract awarded Wm. Willer & Son, Cincinnati, for erecting 3-story store at 2526 Vine St. E. H. Kruckemeyer, archt.

★**Columbus, O.**—Contract awarded J. W. Heckert, Columbus, for erecting coliseum at State Fair grounds, at $178,524.

★**Kenosha, Wis.**—Contract awarded Immel Constr. Co., Sheboygan, for erecting Elks club house here at $113,000.

★**Kenosha, Wis.**—Contract awarded Immel Constr. Co., Fond du Lac, Wis., at $94,000 for erecting club house. E. E. Randall, Chm. Bldg. Comm., 312 Market St.

★**Butte, Mont.**—Contract awarded by Jesse M. Warren, archt., to Moward & Cannon, at $50,000, for erecting Ben Bank Hotel at Galena and Arizona Sts., for Ben Bank Realty Co.

Dallas, Tex.—Reported American Exchange Nat'l Bank will erect 17-story, 110 x 110 ft. granite and marble building at Main St. and Scollard Ct., to cost $800,000. Lang & Witchell, archts., Southwestern Bnk. Bldg. Hughes & O'Rourke, contractors, 1413 Praetorian Bldg.

★**Spokane, Wash.**—Contract awarded Porter Bris., general contractors, here, for erecting Crescent Store Building at $400,000.

Los Angeles, Cal.—See "Reinforced Concrete."

★**San Marino, Cal.**—Contract awarded Thos. C. Marlowe, 1017 Van Nuys Bldg., Los Angeles, for erecting masonry residence on Oak Knoll for Rufus Spalding, Pasadena, at $100,000. Plans prepared by R. D. Farquhar, 1123 Van Nuys Bldg., Los Angeles.

★**Venice, Cal.**—Contract awarded D. D. Smith, 15 Zephyr Ave., for erecting 5-story and basement, 90 x 90 ft., brick apartment house at Horizon Ave. and Trolleyway at $80,000 for David Evans, 932 Merchants Nat'l Bank Bldg., Los Angeles.

FOUNDATIONS, PIERS AND DAMS

PROPOSED WORK

Philadelphia, Pa.—City contemplates constructing pier at foot of Cherry St. and Delaware River; cost about $400,000.

Spring Hope, N. C.—J. B. Privette and others, it is reported, contemplate developing the Webb Mills water power several miles from Spring Hope, and constructing hydroelectric plant.

Savannah, Ga.—City contemplates harbor improvements to cost $2,000,000. W. B. Stillwell, chmn. advisory comn for harbor.

New Orleans, La.—Port Comrs. contemplate selling $25,000,000 bonds for waterfront improvements, to include expending $4,000,000 for adding four units to warehouse and increasing grain elevator capacity from 2,000,000 to 3,500,000 bu.

Chattanooga, Tenn.—Engineering Dept. of Southern RR. has been asked to make preliminary surveys and estimates for constructing levee system to protect city from future floods. Bond issue will probably be asked. Address E. M. Durham, Jr., executive agt. of the Southern RR.

Conneaut, O.—U. S. Steel Corp., 71 Broadway, New York, N. Y., contemplates constructing ore docks to cost $5,000,000; other port improvements contemplated for the next 5 yrs. to cost about $10,000,000.

Manitowoc, Wis.—Plans are being prepared by Woodmansee-Davidson Co., First National Bank Bldg., Chicago, Ill., for erecting a hydro-electric power plant here for Wis. Pub. Serv. Co., subsidiary of Wis. Securities Co., Milwaukee, cost about $250,000.

Little Rock, Ark.—Bd. of Comrs., Farrely Lake Levee Dist. (John M. Gracie, chmn., and J. W. Moncrief, atty.), contemplate constructing dam on Big Bayou Meto, also constructing levees.

London, Ont.—Public Utilities Comrs. contemplate raising dam for developing 1500 hp.; cost $25,000. E. V. Buchanan, gen. mgr., City Hall.

BIDS DESIRED

Rochester, N. Y.—Until Apr. 10 by W. W. Wotherspoon, supt. pub. wks., Capitol, Albany, for Cont. No. 138, Erie Canal, Sect. 9, for constructing movable dam, bulkhead, retaining walls, etc.

Newport Beach, Cal.—Until Apr. 23, by Claude M. Crego, city clk., for constructing rubble mound jetty. Advertised in this issue.

PRICES AND LETTINGS

★*Indicates award of contract.*

Woods Hole, Mass.—Following are bids opened March 7 by U. S. Coast Guard, Treas. Dept., Washington, D. C., for constructing wharf at Woods Hole, Mass.: Rendle Stoddard Co., Chelsea, $14,299; Wm. L. Miller Co., Boston, Mass., $16,399; Frank C. Taylor, New Bedford, $18,350; Both & Chase, Fall River, $23,140.

★**Berlin, Wis.**—Contract awarded by Ashland Coal & Dock Co., to Pepard & Fulton Co., Berlin, at $250,000 for constructing dock.

★**Imperial, Neb.**—Contract awarded by W. C. Hill, village clk. (bids opened Mar. 14), for furnishing material and constructing hydro-electric plant, to Peter N. Kruse, Spencer, Ia.; estimated cost $18,000.

Long Beach, Cal.—Following are bids opened Mar. 14 by city for constructing combined reinforced concrete seawall of Schlueter interlocking slab type and reinforced and cement sidewalk with longitudinal center wall, end walls, steps, etc., along 1800 lin. ft. of Seaside Blvd.: H. W. Schleuter, 1225 Maryland St., Los Angeles, $54,476; Carl Sortiras, Black Bldg., Los Angeles, $58,000. Koebig & Koebig, engrs., Title Insurance Bldg., Los Angeles.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK

Albany, N. Y.—Bonds for $25,000,000 of which $10,000,000 are for highway and same amount for canal improvements, $2,500,000 for Palisades Interstate and Forest Preserve Parks, will be sold Apr. 5, by State Controller Travis.

Seattle, Wash.—Following are 3 lowest bids opened Mar. 2 by Bd. Pub. Wks. (A. H. Dimock, city engr.) to construct concrete substructure of Eastlake Ave. Bridge for proposition No. 2: (a) Erickson Constr. Co., 25 Downs Bldg., $217,989 (alt. $195,704); (b) Puget Sound Bridge & Dredging Co., 811 Central Bldg., $219,267; (c) Booker, Kiehl & Whipple, 505 Central Bldg., $232,522.

	(a)	(b)	(c)
5,600 cu. yd. excav.	$6.80	$3.50	$12.75
5,300 cu. yd. class "A" concrete deposited under water by Tremic, 1:2:3 mixture	9.15	9.95	7.75
6,900 cu. yd. class "C" concrete in piers above water	9.25	11.30	7.00
10,300 cu. yd. alt. to preceding 2 items, concrete placed in unwatered foundations and piers, class "C" concrete, 1:3:5 mixture	8.75	...	...
1,560 cu. yd. class "B" concrete, 1:2:4 mixture	11.00	15.00	11.00
269,000 lb. reinforcing steel	0.0525	0.06	0.0525
270,000 lb. grouting, placing and painting street steel grillages and anchor bolts, inclusive	0.02	0.013	0.015
2 fir bumping logs, each	45.00	50.00	25.00
6,600 lin. ft. peeled pines in protection work	0.24	0.22	0.25
14,000 b. m. timber in protection works	28.50	35.00	30.00
560 lin. ft. chains on dolphins	0.60	0.60	0.75
1,390 sq. ft. surface treatment of operators' houses, etc.	0.115	0.11	0.20
4 test piles, each	50.00	100.00	25.00
4 c.-i. manhole covers, etc., each	21.50	20.00	20.00
108 ladder rungs, each	0.90	0.50	0.40
Steel ladders (4 mark L. I., 4 mark L. 2), lump sum	235.00	250.00	250.00
6 lin. ft. vitrified pipe for openings in masonry	0.62	0.80	1.00
8 eye bolts in shafts of anchor piers, each	3.70	2.25	5.00
4 checkered plates in sidewalk, each	26.50	40.00	20.00
270 sq. ft. expanded metal under bearings	0.16	0.07	0.15
180 sq. ft. woven wire gates and window guards	0.80	1.00	0.40
340 lin. ft. galv. iron pipe hand railings	2.40	2.25	2.50
Wood partitions lump sum	60.00	115.00	150.00
Doors, windows, hardware, etc., operators' houses, towers, etc., lump sum	1,500.00	1,000.00	1,100.00
80 cu. yd. reinforced concrete partitions	2.40	2.00	2.25
152 cu. yd. walls and roof of machinery houses	2.70	2.70	2.50
300 cu. yd. extra excav. below elevation.—42 on north side	7.50	3.50	12.30
300 cu. yd. extra class "A" concrete below elevation.—42 on north side	9.40	9.95	9.70
300 cu. yd., alternate in case foundations are unwatered, extra class "C" concrete below elevation.—42 on north side	925	...	...
300 cu. yd. extra excav. below elevation.—34 on south side	7.50	3.50	10.00
300 cu. yd. extra class "A" concrete below elevation.—34 on south side	9.40	9.95	8.00
300 cu. yd., alternate in case foundations are unwatered, extra class "C" concrete below elevation.—34 on south side	9.25	...	...
40,500 lin. ft. foundation piles	0.35	0.29	0.45

Trenton, N. J.—Bill has been passed by Senate for right of way for New Jersey ship canal to be 25 ft. deep, 100 ft. wide at bottom and will be without locks, being a sea-level waterway; estimated by U. S. engrs. to cost about $40,000,000.

Georgetown, S. C.—County Comrs. contemplates organization of Georgetown Drainage Dist. No. 1, consisting of 104 miles ditches and canals to drain about 50,000 acres; cost about $150,000.

New Albany, Miss.—Drainage bonds for $136,000 have been sold.

Lorain, O.—Contract will soon be let by Service Director for dredging river here.

St. Peter, Minn.—Ditch bonds for $50,000 will be sold soon. W. H. Holz, co. aud.

Orange, Tex.—Survey completed by E. U. Henry, city engr., for improving and extending drainage system.

Lawton, Okla.—Attorney L. Honnold, representing the federal reclamation service, and directors of Lawton irrigation dist., have agreed upon construction of Lawton irrigation project; appropriation, $150.000, of this amount $51,000 is now available for work.

Santa Fe, N. M.—State Legislature passed bill to straighten channel of Rio Grande and create two drainage districts, one above and the other below Elephant Butte dam. Address State Engr.

North Yakima, Wash.—R. K. Tiffany, project mgr., U. S. R. S., reports many laterals will be concreted and metal flumes installed on Sunnyside Project; $50,000 will be available for improvements.

Tacoma, Wash.—Inter-County River Improv., King and Pierce Counties (W. J. Roberts, ch. engr.), this year contemplates dredging and permanent bank protection work on Puyallup River, in all about 20,000 lin. ft. protection work, including rock ballast, concrete paving on slopes, etc.; annual appropriation $250,000.

Toppenish, Wash.—Alterations and extensions of canals, diversion of dams contemplated; cost $200,000. L. M. Holt, superv. engr., Pioneer Bldg., North Yakima.

Lakeview, Ore.—Formation of irrigation district containing 7,000 acres of land in vicinity of Silver Lake contemplated; cost $200,000. A. B. Schroder interested.

California—Following applications have been filed with State Water Comn., San Francisco, for permission to divert water:

Geo. H. Ayers, Ft. Bidwell, 700 second ft. Modoc Co., for irrigation including rock filled dam 45 ft. high and 650 ft. long, and 44 mi. main canal; cost $450,000.

J. H. Lubken, Lone Pine, one second ft. including pipe line 6 mi. long; cost $4,000.

Sutter Bain Co., Fruit Exchange Bldg., Sacramento, 45 second ft. from Sacramento River for irrigation, including pumping plant and canals; cost $20,000.

Bryant Howard, Orchard St., San Diego, including pipe line 5 mi. long; cost $3,000.

W. E. Baker, 2649 San Marino Ave., Los Angeles, for irrigation and power development in Coachella Valley.

Benj. J. Bennett, 211 E. 7th South St., Salt Lake City, 20,000 acre ft. per annum from Baxter Creek, including earth dam 65 ft. high, 1560 ft. long, with steel piling cut-off; cost $300,000.

Dixon, Cal.—Surveys are being made in Yolo County and Solano County for constructing drainage ditches to drain about 60,000 acres of land east and southeast of here. C. Archibald, Homer G. Brown and others of Dixon interested.

Fairoaks, Cal.—Fairoaks Irrig. Dist. being organized to irrigate 3060 acres, also contemplates issuing $140,000 for this work. R. S. Rose, secy. Water Com.

Marysville, Cal.—L. B. Crook, co. surv., and W. J. Forbes, co. superv., appointed committee to prepare plans for drainage system to carry overflow waters from Hallwood Irrigation Dist. into Nigger Jack Slough. Address co. clk.

San Diego, Cal.—Dredging of channel on north side of municipal pier contemplated; expenditure about $220,000. Major Geo. W. Pillsbury, Los Angeles, engr. in charge.

BIDS DESIRED

Boston, Mass.—Until Apr. 18 by U. S. Engrs. Office, for dredging in Weymouth Fore River; advertised in this issue.

New York, N. Y.—Until March 27, by R. A. C. Smith, comr. docks, for Cont. No. 1556, for dredging rivers in the five boros.; security $11,000.

Clarksdale, Miss.—Reported desired until April 5, by Co. Drain Comn. (H. D. Glass, pres.), for 1,200,000 cu. yd. ditch excavation, length of ditches about 37 mi., also for 183,000 cu. yd. levee embankment, etc. L. W. Washburn, engr.

Quincy, Ill.—Until May 1, by Comrs. Indian Grove Grain Dist. (L. H. A. Nickerson, secy), for constructing drainage pumping plant. Advertised in this issue.

Sibley, Ia.—Until Apr. 2, by Bd. Supervs. for constructing improvements in Drain. Dist. No. 34; work includes about 7122 ft. sewer pipe, 527 ft. "Ys" and "Ts", inlets and bulkheads, etc. D. W. Clayton, co. aud.

Madison, Minn.—Until March 28, by Co. Bd., for repairing main Ditch No. 27, about 8 miles long, requiring 77,270 cu. yd. excavation; cost about $12,190. Berner Loftfield, engr.

Malta, Mont.—Until Apr. 25, by U. S. Recl. Serv. (A. P. Davis, ch., Washington, D. C.), for earthwork in Nelson Reservoir South Canal, Milk Project. Advertised in this issue.

Powell, Wyo.—Until Apr. 18 by U. S. Reclamation Serv. for constructing about one mile of Frannie Canal on Shoshone Project; advertised in this issue.

Newport Beach, Cal.—Until April 23, by City Clk., for improving entrances to Newport Bay; cost about $90,000. Leeds & Barnard, 1103-7 Central Bldg., Los Angeles, engrs.

PRICES AND LETTINGS

★*Indicates award of contract.*

Albany, N. Y.—Following are bids opened Mar. 20, by W. W. Wotherspoon, State Supt. Pub. Wks., for Contr. 154, Erie Canal, Sect. 8, constructing additional Tainter gate in dam at Lock 27, Lyons: Lupfer & Remick, Buffalo, $9,057; Contr. 159, Erie Canal, Sect. 8, placing embankment on north canal bank between Newark and Palmyra and extending Ganargua Creek spillway; I. M. Ludington Sons', Inc., Rochester, $28,476; Frank M. Skene, Rochester, $32,562; Chesley, Earl & Heimbach, Inc., Buffalo, $34,008; J. L. Richmond, Richfield Springs, $38,567; engineers estimates, $30,464; Terminal Contract No. 36, constructing terminal on west side of Hudson River, north of 12th St. bridge in city of Cohoes; Troy Pub. Wks. Co., Utica, $57,600; Great Lakes Dredge & Dock Co., Albany, $66,060; John M. Holler Constr. Corp., Albany, $68,133; engineer's estimate, $61,000.

New York, N. Y.—Following are lowest bids opened March 14 by Dept. of Health (A. E. Shipley, secy.) for ditching and draining, etc., for mosquito extermination, Flushing, Newtown and Elmhurst sections: Thos. F. Tuolry & Co., Flushing, $12,000; Kissena Park and Flushing section: Peace Bros., 20 Main St., Flushing, $4,981.

★**New York, N. Y.**—Following are bids opened Feb. 8 by U. S. Engrs. for dredging and rock removal in Hudson River: Jas. Stewart & Co., Inc., 30 Church St., New York City, $358,600 (awarded contract); Great Lakes Dredge & Dock Co., 27 Lumber Dist., Albany, N. Y., $366,000 Maryland Dredg. & Contr. Co., 1515 Fidelity Bldg., Baltimore, Md., $528,400; P. Sanford Ross, Inc., Jersey City, N. J., $600,700.

Wilmington, Del.—Only bid received Mar. 19 by U. S. Engrs. Old Federal Bldg. for dredging Chester Creek was that of Delaware Dredg. Co., Philadelphia, at 48 cts. per cu. yd., place measurement.

★**Anderson, S. C.**—Contract awarded Karr & Moore, Salisbury, for constructing drainage system consisting of 16 miles dredge work. W. H. Shearer, engr. and constr. supt., Anderson.

★**Savannah, Ga.**—Contract awarded W. J. Fitzgerald, Savannah, for dredging new Atlanta, Birmingham and Atlantic terminals at Brunswick, with 150,000 cu yds. material to be removed and dredging of cooling basin of about 75,000 cu. yds., constructing dams, etc., at Atlanta Steel Works, both contracts at approximately $100,000.

Alexandria, La.—Following bid opened March 7 by Bd. Comrs., Red River Atchafalya & Bayou Boeuf Levee Dist. (E. G. Richards, pres., Melville), for excavating drainage canal in Rapides and Avoyelles Parishes, in all about 1,900,000 cu. yd. excav.: J. L. Douglas, Burt & Buchanan Co., Shreveport, La., at 7.85 cts. per cu. yd.

★**Danville, Ill.**—Contract awarded by Maple Grove Drainage Dist. to National Drain Tile Co., Terre Haute, at $28,865 for about 18 miles 6 to 30-in. tile.

★**Forest City, Ia.**—Contracts awarded by Bd. Supervs. for excavation in Drainage Dists. Nos. 49 and 79 to Berkland & Littell, Eagle Grove, at $41,000; Plymouth Clay Product Co., Ft. Dodge, and Lehigh Clay Product Co., Lehigh, $52,712 for tile.

★**Anoka, Minn.**—Contract awarded by county to F. Johnson, Cambridge, at $21,700 for constructing county ditch No. 58.

★**Blue Earth, Minn.**—Contract awarded for open work on Ditch No. 41 to C. A. Walb, La Grange, Ind., at 8.35 cts. per cu. yd. and tile to Elmore Cement & Tile Co., Elmore, Ia., at $19,000.

★**Crookston, Minn.**—Contract awarded by County to Union Drainage Co., Stephen, Ia., at $22,783, for constructing Ditch No. 109.

Elk River, Minn.—Following bids opened March 15 by Arthur Robinson, co. aud., for constructing Judicial Ditch No. 1: C. T. Lount Co., Winthrop, Minn., $41,753; F. R. Hupp, 1450 W. Lake St., Minneapolis, $53,000; G. E. Gilbertson, St. James, Minn., $59,400.

Otis Orchard, Wash.—Following are totals and unit figures of bids opened Mar. 3, by Otis Orchard Irrig. Dist., for improvements to distribution system: (a) Hans Pederson, Constr. Co., Alaska Bldg., Seattle, clay and wood pipe, $65,097; concrete and wood pipe, $71,025; clay and creosoted wood pipe, $66,267; concrete and creosoted wood pipe, $72,195; (b) J. A. Fletcher, care Sawyer Bros., Lindelle Blk., Seattle, $71,184, clay and wood pipe; $63,771, concrete and wood pipe; $72,549, clay and creosoted wood pipe; $65,136, concrete and creosoted wood pipe; (c) O. N. Wolfe & Co., $79,287, clay and wood pipe; $79,287, concrete and wood pipe; $80,418, clay and creosoted wood pipe; also for concrete and wood pipe, same amount; (d) Security Bridge Co., Lewiston, Idaho, $79,054, clay and wood pipe; $88,979, concrete and wood pipe; $80,263, clay and creosoted wood pipe; $90,188, concrete and creosoted wood pipe.

	(a)	(b)	(c)	(d)
30,000 cu. yd. excavation and backfill	$0.35	$0.44	$0.57	$0.40
20 ft. 6-in. steel pipe, in plaec	1.20	1.20	1.35	1.50
20 ft. 8-in. steel pipe, in place	1.60	1.60	1.80	2.25
60 ft. 10-in. steel pipe, in place	3.20	3.00	2.90	3.25
80 ft. 12-in. steel pipe, in place	3.70	3.50	3.65	4.00
20 ft. 15-in. steel pipe, in place	4.80	4.00	4.25	4.50
40 ft. 16-in. steel pipe, in place	5.25	4.50	4.50	5.00
100 6-in. delivery valves, in place	4.00	3.50	4.20	4.80
250 8-in. delivery valves, in place	5.00	5.00	5.00	5.45
10 8-in. sluice valves, in place	4.00	3.00	10.30	8.90
20 10-in. sluice valves, in place	5.00	3.50	11.25	9.65
10 12-in. sluice valves, in place	6.00	4.25	12.00	10.35
5 15-in. sluice valves, in place	10.00	10.00	16.50	13.75
1 18-in. sluice valve, in place	15.00	24.00	19.00	15.85
1,000 ft. 18-in. vertical pipe, in place	0.75	0.70	0.88	0.76
400 ft. 24-in. vertical pipe, in place	1.25	1.10	1.37	1.45
Control Chamber, Complete:				
14,000 ft. 6-in. No. 2 vitrified clay pipe, in place	0.15	0.171	0.20	0.20
60,000 ft. 8-in. No. 2 vitrified clay pipe, in place	0.20	0.238	0.27	0.28
33,000 ft. 10-in. No. 2 vitrified clay pipe, in place	0.30	0.315	0.34	0.385
22,000 ft. 12-in. No. 2 vitrified clay pipe, in place	0.42	0.418	0.44	0.53
14,000 ft. 15-in. No. 2 vitrified clay pipe' in place	0.65	0.647	0.60	0.75
1,900 ft. 18-in. No. 2 vitrified clay pipe, in place	0.93	1.26	0.88	1.07
1,300 ft. 24-in. No. 2 vitrified clay pipe, in place	1.60	1.69	1.37	1.68
70 pieces 6-in. vitrified clay pipe specials, in place	0.60	1.00	0.62	0.50
300 pieces 8-in. vitrified clay pipe specials, in place	0.82	1.50	1.83	0.70
120 pieces 10-in. vitrified clay pipe specials, in place	1.10	2.00	2.86	1.00
70 pieces 12-in. vitrified clay pipe specials, in place	1.60	2.50	1.87	1.25
40 pieces 15-in. vitrified clay pipe specials, in place	2.60	4.00	2.88	2.00
5 pieces 18-in. vitrified clay pipe specials, in place	3.25	6.00	3.25	3.00
5 pieces 24-in. vitrified clay pipe specials, in place	6.50	8.00	6.50	4.75
14,000 ft. 6-in. concrete pipe, in place	0.18	0.139	0.20	0.26
60,000 ft. 8-in. concrete pipe, in place	0.25	0.205	0.27	0.34
33,000 ft. 10-in. concrete pipe, in place	0.35	0.274	0.34	0.45
22,000 ft. 12-in. concrete pipe, in place	0.44	0.377	0.44	0.62
14,000 ft. 15-in. concrete pipe, in place	0.70	0.578	0.60	0.84
1,900 ft. 18-in. concrete pipe, in place	0.85	0.768	0.88	1.10
1,300 ft. 24-in. concrete pipe, in place	1.50	1.312	1.37	1.60
70 pieces 6-in. concrete pipe specials, in place	0.60	0.90	0.62	0.75
300 pieces 8-in. concrete pipe specials, in place	0.82	1.10	1.83	0.90
120 pieces 10-in. concrete pipe specials, in place	1.10	1.50	2.86	1.25
70 pieces 12-in. concrete pipe specials, in place	1.60	2.00	1.87	1.60
40 pieces 15-in. concrete pipe specials, in place	2.60	1.125	2.88	2.40
5 pieces 18-in. concrete pipe specials, in place	3.25	5.00	3.25	3.00
5 pieces 24-in. concrete pipe specials, in place	6.50	10.00	6.50	4.50
3,900 ft. 16-in. wood pipe, in place	0.90	0.75	0.72	0.77
3,900 ft. 16-in. wood pipe, creosoted, in place	1.20	1.10	1.01	1.08

★**Fairmont, Minn.**—Contract awarded Ed. Dahl & Co., Truman, Minn., at $9,504 for constructing Ditch No. 75, and Jas. S. Jensen, Rutland, Minn., Ditch No. 76, at $11,-700.

Monte Vista, Col.—Contract awarded by Rio Grande Drainage Dist. (O. A. Cramer, secy.), Mar. 7, to Gaffy & Keefe Const. Co., 251 Kalamath St., Denver, Col., for about 44 miles covered tile and wood box drains at average of 5.5 ft. deep.

TUNNELS AND SUBWAYS

PROPOSED WORK

Boston, Mass.—Extension of system of subways to Upham's Corner, Dorchester, contemplated; cost $2,800,000. John J. Dailey, secy. Dorchester Bd. of Trade.

Philadelphia, Pa.—Construction of Chestnut St. subway has been reported favorably by Street Railways Com. of Councils.

Wesleyville, Pa.—Plans being prepared for constructing subway at crossing over Water St. here by the Nickel Plate (E. E. Hart, ch. engr., Cleveland), New York Central and East Erie Commercial Railroads.

Martinsburg, W. Va.—City contemplates voting on $210,000 bonds for constructing subways. Address the Mayor.

Spokane, Wash.—Reported Oregon-Washington R. R. & Navigation Co., contemplates replacing old trestle over "Brickyard Gulch" near southern city limits with fill and concrete tunnel, fill to be of earth and rock 100 ft. high and 400 ft. wide, tunnel to be located at 25th Ave. and Poplar St., 24 ft. wide and 19 ft. high; cost about $30,000; entire project estimated at $150,000.

Olinda, Cal.—Dir. of Happy Valley Irrigation Dist. (Ross J. Flintjer, secy.) have ordered estimates as to cost of constructing tunnel to carry main canal through hill and extending distributing system to serve about 6000 acres; probable cost $200,000.

MISCELLANEOUS

PROPOSED WORK

Parks—Albany, N. Y.—See "Excavation, Drainage and Dredging."

Garbage Plant—Bloomfield, N. J.—Town Council considering constructing municipal garbage plant; cost $40,000. Edw. J. Hughes, councilman.

Park—Trenton, N. J.—Bill providing $500,000 appropriation for Interstate Palisade Park project has been passed, $100,000 set aside annually for 5 yrs. for this purpose.

Playgrounds—Philadelphia, Pa.—Fairmont Park Comn. contemplates improving various playgrounds in city; cost $600,000.

Incinerator—Tarentum, Pa.—Council contemplates constructing garbage incinerator; site selected.

Garbage Plant—Tarentum, Pa.—Court has approved site selected by borough for new garbage incinerator.

Transmission Line—Dillonvale, O.—Sunnyside Electric Co., Wheeling, W. Va., contemplates extending its electric transmission line from Dillonvale to Amsterdam, a distance of 25 miles.

Transmission Line—Fairport, O.—The Sunnyside Electric Co., Wheeling, W. Va., planning to erect an electric transmission line from Fairport to Flushing, distance of 9 miles.

Transmission Line—Leisure, Ind.—Leisure Electric Light Co., recently incorporated with capital of $10,000, is planning to erect an electric transmission line from Elwood to Leisure, a distance of 6 miles, to secure energy from the Indiana General Service Co.

Park—Manistique, Mich.—Election to be held Apr. 2 to vote $12,000 bonds for park purposes.

Transmission Line—Cedar Rapids, Ia.—The Iowa Railway & Light Co., Cedar Rapids, contemplates erecting high-tension transmission on line from its power plant at Nevada to Dayton Lake Amusement Park, 11 miles long.

Transmission Line—Danbury, Ia.—The Bd. of Railroad Comrs. granted Mark Durst and Godfrey Durst, Jr., a 25-year franchise to erect and operate electric transmission lines for distribution of electricity upon roads and highways in Woodbury Co.

Transmission Line—Iowa Falls, Ia.—The Iowa Falls Electric Co. has applied to the State Railroad Comn. for franchise to erect electric transmission line in Worth Co., also in Hancock and Cerro Gordo counties.

Incinerator—Snyder, Tex.—City contemplates constructing incinerator.

Transmission Line—Salt Lake City, Utah.—Surveys being made for proposed addition to transmission line of the Utah Power & Light Co., Salt Lake City, between Salt Lake City and Grace, Idaho, a distance of 130 miles; cost about $300,000.

BIDS DESIRED

Guard Rail, New York, N. Y.—Until Apr. 10 by Bd. Water Supply (Chas. Strauss, pres.), for furnishing and erecting about 3½ mi. of reinforced concrete guard rail; advertised in this issue.

Garbage Disposal—East Orange, N. J.—Until Apr. 9, by Lincoln E. Rowley, city clk., for maintaining scavenger system and disposal of garbage, etc., for term of from one to five years.

Bethedsa, Md.—Reported desired until March 30, by Bd. Awards (R. M. Reese, chmn.), Dept. Agr., Washington, D. C., for erecting incinerator.

Crane—Charleston, S. C.—Until Apr. 9 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Washington, D. C., for furnishing shipbuilding crane at Navy Yard here.

Pumping Machinery—Yuma, Ariz.—Until Apr. 18 by Dept. Interior, U. S. Reclamation Serv. (A. P. Davis, ch.), Washington, D. C., for furnishing pumping machinery for Yuma Valley Drainage plant.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Lagoon, Atlantic Highlands, N. J.**—Contract awarded Jesse Howland, Sea Bright, at $18,000 for building lagoon at mouth of Many Minds Creek.

Newark, N. J.—Following are four lowest bids opened by Bldg. Com. Bd. Freeholders for boilers for the Overbrook Hospital: (a) Babcock & Wilcox, (b) Stirling, (c) Badenhauser: Jaehnig & Peoples, Inc., Newark (a), $55,840; (b), $50,500; (c), $50,-755; United Supply & Constr. Co., Newark (a), $69,680; (b), $64,685; (c), $59,928; Henderson & Co., Irvington, $73,300; (b), $68,-000; (c), $63,600; Watson Flagg Eng. Co., New York, N. Y. (a), $72,632; (b), $67,587; (c), $65,740.

★**Test Piles, etc., Philadelphia, Pa.**—Contract awarded by Dept. of Wharves & Docks, Bourse Bldg., Philadelphia, to J. Herman Terry & Co., Drexel Bldg., Philadelphia, for driving test piles in Delaware River at Penn Treaty Pier; bids for Kenilworth St. pier were not opened, owing to threatened litigation over title to property.

Bucket Dredge, Vallejo, Cal.—Only bid opened Feb. 26 by Bureau Yards & Docks, Navy Dept., Washington, D. C., for furnishing electrically operated bucket dredge at Mare Island was that of Stockton Iron Wks., Stockton, at $31,600.

Proposals

For Proposals Advertised See Pages 34a, 35, 36, 37

WATER WORKS AND SEWERAGE SYSTEMS

Bids Close.		See Eng. Record.
Mar. 27.	Hampton, Ia.	Mar. 17
Mar. 27.	Boston, Mass.	Mar. 24
Mar. 28.	Cuyahoga Falls, O.	Mar. 24
Mar. 28.	Canton, O.	Mar. 24
Mar. 29.	Murray, Ky.	Mar. 17
Mar. 30.	Ripon, Wis.	Mar. 10
Mar. 30.	Cincinnati, O.	Mar. 24
Mar. 30.	Murray, Ky.	Mar. 24
Mar. 30.	Wooster, O.	Mar. 24
Mar. 30.	Ambridge, Pa.	Mar. 24
Mar. 31.	Simcoe, Ont.	Mar. 24
Apr. 1.	Gibson, Ill.	Dec. 23

Bids Close.		See Eng. Record.
Apr. 1.	Mt. Vernon, O.	Dec. 23
Apr. 1.	Hillsboro, Ill.	Jan. 27
Apr. 1.	Rocky River, O.	Mar. 17
Apr. 2.	Big Sandy, Mont.	Mar. 17
Apr. 2.	San Diego, Cal.	Mar. 24
Apr. 2.	Lyndhurst, N. J.	Mar. 24
Apr. 2.	Fresno, Cal.	Mar. 24
Apr. 2.	Muskegon Heights, Mich.	Mar. 24
Apr. 3.	Covina, Cal.	Mar. 17
Apr. 3.	Scottsbluff, Neb. Adv. Mar. 17.	Mar. 17
Apr. 5.	Clifton Heights, Pa.	Mar. 24
Apr. 6.	Erie, Pa. Adv. Mar. 24.	Mar. 24
Apr. 6.	Highland Park, Ill.	Mar. 24
Apr. 7.	San Francisco, Cal.	Mar. 24
Apr. 9.	Clear Lake, S. D.	Mar. 10
Apr. 10.	Greenwood, O. Adv. Mar. 24.	Mar. 24
Apr. 10.	Omaha, Neb.	Mar. 24
Apr. 10.	Philadelphia, Pa. Adv. Mar. 24.	Mar. 24
Apr. 10.	Milan, Mo.	Mar. 24
Apr. 13.	Astoria, Ore.	Mar. 17
Apr. 13.	Wauston, Wis.	Mar. 17
Apr. 16.	Winnipeg, Man. Adv. Mar. 24.	Mar. 24
Apr. 18.	Akron, Ohio. Adv. Mar. 24.	Mar. 24
Apr. 27.	Alliance, O.	Mar. 24
May 1.	Monaca, Pa.	Mar. 17
	Granite City, Ill. Adv. Mar. 10 to 24.	Mar. 10

STRUCTURAL STEEL WORK

Mar. 27.	Fort Riley, Kan. Adv. Mar. 3 to Mar. 24.	Mar. 3
Mar. 27.	Somerset, Ky.	Mar. 17
Mar. 27.	Somerville, N. J.	Mar. 17
Apr. 2.	Greenfield, Ind.	Mar. 24
Apr. 2.	Lexington, Miss.	Mar. 24
Apr. 2.	Eufaula, Okla.	Mar. 24
Apr. 2.	West Chester, Pa.	Mar. 24
Apr. 3.	Brookeville, Ky.	Mar. 17
Apr. 3.	Sisseston, S. D.	Mar. 17
Apr. 3.	Britton, N. D.	Mar. 10
Apr. 3.	Ft. Sill, Okla. Adv. Mar. 24.	Mar. 24
Apr. 3.	Sibley, O.	Mar 24
Apr. 3.	Walker, Minn. Adv. Mar. 24.	Mar. 24
Apr. 4.	Freehold, N. J.	Mar. 24
Apr. 4.	Macedonia, Ia.	Mar. 24
Apr. 4.	Elizabeth, N. J.	Mar. 24
Apr. 7.	Tiffin, O.	Mar. 24
Apr. 10.	Buffalo, Minn.	Mar. 24

REINFORCED CONCRETE

Mar. 27.	Junction City, Kan.	Mar. 17
Mar. 28.	Kansas City, Kan.	Mar. 17
Mar. 28.	Burlington, Ia.	Mar. 24
Mar. 29.	Reading, Pa.	Mar. 17
Mar. 29.	Celina, O.	Mar. 24
Mar. 30.	Cincinnati, O.	Mar. 24
Mar. 31.	Forrest City, Ark. Adv. Mar. 10.	Mar. 10
Apr. 2.	Chehalis, Wash.	Mar. 24
Apr. 5.	Elkdar, Ia.	Mar. 24
Apr. 7.	Pine Bluff, Ark.	Mar. 17
Apr. 14.	Peyton, Ga.	Mar. 24
Apr. 16.	Washington, D. C. Adv. Mar. 17.	Mar. 17
Apr. 17.	Lansing, Mich. Adv. Mar. 17, 24.	Mar. 17
Apr. 21.	Winnipeg, Man.	Mar. 24

ROADS AND PAVING

Mar. 27.	Nogales, Ariz.	Mar. 3
Mar. 27.	Easton, Md.	Mar. 10
Mar. 27.	Nutley, N. J.	Mar. 10
Mar. 27.	Baltimore, Md.	Mar. 17
Mar. 27.	Trenton, N. J.	Mar. 24
Mar. 27.	Mankato, Kan.	Mar. 24
Mar. 28.	Columbus, O.	Mar. 10
Mar. 28.	Lorain, O.	Mar. 17
Mar. 28.	Norfolk, Va. Adv. Mar. 17, 24.	Mar. 17
Mar. 28.	Pomeroy, Wash.	Mar. 17
Mar. 28.	Terrel, Tex.	Mar. 17
Mar. 28.	New York, N. Y.	Mar. 24
Mar. 28.	Illinois	Mar. 24
Mar. 28.	Glenwood, Minn.	Mar. 24
Mar. 28.	Pittsburg, Kan.	Mar. 24
Mar. 29.	Pennsboro, W. Va.	Feb. 17
Mar. 29.	Belleville, N. J. Adv. Mar. 10, Mar. 17.	Mar. 10
Mar. 29.	Jackson, Mich. Adv. Mar. 17, 24.	Mar. 17
Mar. 29.	Springfield, Mass.	Mar. 24
Mar. 29.	New York, N. Y.	Mar. 4
Mar. 30.	Columbus, Ohio.	Mar. 24
Mar. 30.	Canton, Ill.	Jan. 20
Mar. 30.	Naperville, Ill.	Jan. 27
Mar. 30.	New Eagle, Pa.	Mar. 10
Mar. 30.	Richland Center, Wis.	Mar. 17
Mar. 30.	Centerville, Tenn.	Mar. 17
Mar. 30.	Davenport, Wash.	Mar. 17
Mar. 30.	St. Louis, Mo.	Mar. 24
Mar. 31.	Welch, W. Va.	Mar. 24
Mar. 31.	Gate City, Va.	Mar. 24
Mar. 31.	Astoria, Ore.	Mar. 24
Mar. 31.	Detroit, Mich.	Mar. 24
Apr. 1.	Virginia, Ill.	Jan. 18
Apr. 1.	East Rochester, N. Y.	Feb. 17
Apr. 1.	Helena, Mont.	Mar. 17
Apr. 1.	Polo, Ill.	Mar. 17
Apr. 1.	Fresno, Cal.	Mar. 17
Apr. 2.	Fayetteville, W. Va. Adv. Mar. 10.	Mar. 10
Apr. 2.	Yreka, Cal.	Mar. 17
Apr. 2.	Merced, Cal.	Mar. 17
Apr. 2.	Elizabeth, N. J.	Mar. 17
Apr. 2.	Indiana	Mar. 17
Apr. 2.	Hazard, Ky.	Mar. 24
Apr. 2.	Newbern, N. C.	Mar. 24
Apr. 2.	Fresno, Cal.	Mar. 24
Apr. 2.	Darby, Pa.	Mar. 24
Apr. 2.	Paris, Ia.	Mar. 24
Apr. 2.	Bloomfield, N. J.	Mar. 24
Apr. 2.	Avon, N. J.	Mar. 24
Apr. 2.	Huntington, W. Va.	Mar. 24
Apr. 3.	Brooksville, Ky.	Mar. 10
Apr. 3.	Madisonville, Wis.	Jan. 27
Apr. 3.	West Orange, N. J.	Mar. 17
Apr. 3.	Indiana	Mar. 17
Apr. 3.	Hamlet, N. C.	Mar. 24
Apr. 3.	Greenville, Miss.	Mar. 24
Apr. 3.	Sioux City, Ia.	Mar. 24
Apr. 3.	Barbourville, Ky.	Mar. 24
Apr. 3.	Oswego, N. Y. Adv. Mar. 24.	Mar. 24
Apr. 4.	Avoca, Ia.	Mar. 24
Apr. 4.	South Bend, Wash.	Mar. 4
Apr. 4.	Palatka, Fla.	Mar. 24
Apr. 4.	Sibley, Ia.	Mar. 24
Apr. 4.	Cleveland, O.	Mar. 24
Apr. 4.	Marshall, Mich. Adv. Mar. 24.	Mar. 24
Apr. 5.	Plymouth, Ind.	Mar. 17
Apr. 5.	Mahonoy City, Pa.	Mar. 24
Apr. 5.	Poughkeepsie, N. Y. Adv. Mar. 24.	Mar. 24
Apr. 6.	Cincinnati, O.	Mar. 24
Apr. 6.	Albany, N. Y. Adv. Mar. 24.	Mar. 24
Apr. 6.	Smithfield, N. C. Adv. Mar. 24.	Mar. 24
Apr. 7.	Layton, N. J. Adv. Mar. 17, 24.	Mar. 17
Apr. 9.	Plainfield, N. J. Adv. Mar. 17, 24.	Mar. 17
Apr. 9.	Apollo, Pa. Adv. Mar. 17.	Mar. 17
Apr. 9.	Malaga, N. J.	Mar. 24
Apr. 9.	Albany, N. Y. Adv. Mar. 24.	Mar. 24
Apr. 10.	New York, N. Y. Adv. Mar. 24.	Mar. 24
Apr. 10.	Greensburg, Pa.	Mar. 24
Apr. 11.	Albany, N. Y. Adv. Mar. 24.	Mar. 24
Apr. 12.	Whitesburg, Ky.	Mar. 17
Apr. 12.	Greenville, Miss. Adv. Mar. 17, 24.	Mar. 17
Apr. 12.	Seal Beach, Cal.	Mar. 4
Apr. 12.	Newark, N. J.	Mar. 24
Apr. 13.	Albany, N. Y. Adv. Mar. 24.	Mar. 24
Apr. 15.	Bayonne, N. J.	Mar. 24
Apr. 15.	Clearfield, Pa.	Mar. 24
Apr. 16.	Newport, Vt.	Mar. 24
Apr. 16.	Fairmont, W. Va. Adv. Mar. 24.	Mar. 24
Apr 25.	Fairmont, W. Va. Adv. Mar. 24.	Mar. 24
Apr. 27.	Fairmont, W. Va. Adv. Mar. 24.	Mar 24

RAILROAD

Mar. 27.	Philadelphia, Pa.	Mar. 17
Mar. 31.	Lake Toxaway, N. C.	Mar. 24

INDUSTRIAL PLANTS AND WAREHOUSES

Mar. 31.	Waverly, Minn.	Mar. 24
Apr. 2.	Philadelphia, Pa.	Mar. 17
Apr. 2.	St. Juliens, Va.	Mar. 24
Apr. 22.	Marlboro, Mass.	Mar. 24

BUILDINGS
Public and Private

Mar. 27.	Philadelphia, Pa. Adv. Mar. 10 to 24.	Mar. 10
Mar. 27.	Platesville, Wis.	Mar. 10
Mar. 27.	Arkansas City, Kan.	Mar. 24
Mar. 28.	Franklin, Wis.	Mar. 24
Mar. 28.	Bridgeport, Conn.	Mar. 24
Mar. 29.	Coshocton, O.	Feb. 24
Mar. 29.	Charleston, S. C.	Mar. 10
Mar. 29.	York, Neb.	Mar. 24
Mar. 29.	Waconia, Minn.	Mar. 24
Mar. 30.	Reading, Mass.	Mar. 10
Mar. 30.	Cape May Court House, N. J.	Mar. 17
Mar. 31.	Dover, N. J.	Mar. 24
Apr. 1.	Lakes Andes, S. D.	Mar. 10
Apr. 4.	Abberville, La. Adv. Mar. 24.	Mar. 24
Apr. 1.	Halifax, N. S.	Mar. 24
Apr. 2.	Troy, O.	Mar. 17
Apr. 2.	Lima, O.	Mar. 17
Apr. 2.	Syracuse, N. Y. Adv. Mar. 17, 24.	Mar. 17
Apr. 2.	Grand Mound, Ia.	Mar. 17
Apr. 2.	Charleston, W. Va.	Mar. 17
Apr. 2.	Stockton, Cal.	Mar. 17
Apr. 2.	Fresno, Cal.	Mar. 17
Apr. 2.	Tippecanoe City, Ohio	Mar. 24
Apr. 3.	Greenville, S. C.	Mar. 10
Apr. 3.	Wooster, Ohio.	Mar. 10
Apr. 3.	Turtle Creek, Pa.	Mar. 24
Apr. 3.	Knox, Ind.	Mar. 24
Apr. 4.	Chariton, Ia.	Mar. 10
Apr. 5.	Beltrami, Minn.	Mar. 24
Apr. 6.	Clara City, Minn.	Mar. 24
Apr. 6.	New Vienna, O.	Mar. 24
Apr. 6.	Rocky River, O.	Mar. 17
Apr. 7.	Trenton, N. J.	Mar. 24
Apr. 9.	Alexandria, La.	Mar. 10
Apr. 10.	Sullivan, Ind.	Feb. 24
Apr. 10.	Ft. Wayne, Ind.	Mar. 17
Apr. 10.	Cameron, Tex.	Mar. 10
Apr. 10.	Sullivan, Ind.	Mar. 17
Apr. 10.	Newark, O.	Mar. 24
Apr. 11.	Lancaster, S. C. Adv. Mar. 10, 17.	Mar. 10
Apr. 12	Wahoo, Neb. Adv. Mar. 10, Mar. 17.	Mar. 10
Apr. 13.	Troy, N. Y. Adv. Mar. 17, 24.	Mar. 17
Apr. 14.	Burlington, Wis.	Mar. 10
Apr. 15.	Lauzon, Que.	Mar. 24
Apr. 16.	Chester, Pa.	Mar. 17
Apr. 16.	Bowling Green, Mo.	Mar. 24
Apr. 18.	East Orange, N. J.	Mar. 17
Apr. 20.	Las Cruces, N. M.	Mar. 24
Apr. 23.	Berlin, N. H.	Mar. 24
Apr. 26.	Fremont, Ohio.	Mar. 10
May. 1.	Minneapolis, Minn.	Nov. 25

FOUNDATIONS, PIERS AND DAMS

Mar 28.	Paterson, N. J.	Mar. 17
Apr. 23.	Newport Beach, Cal. Adv. Mar. 24.	Mar. 24
Apr. 2.	Rochester, Minn. Adv. Mar. 17.	Mar. 17
Apr. 2.	Toronto, Ont.	Mar. 17
Apr. 9.	Kansas City, Mo. Adv. Mar. 17, 24.	Mar. 17
Apr. 10.	Rochester, N. Y.	Mar. 24
Apr. 20.	Rosedale, Kan.	Mar. 17

TUNNELS AND SUBWAYS

Apr. 3.	Philadelphia, Pa. Adv. Mar. 10, Mar. 17.	Mar. 10

EXCAVATION, DREDGING AND DRAINAGE

Mar. 27.	Boston, Mass.	Mar. 17
Mar. 27.	New York, N. Y.	Mar. 24
Mar. 28.	New York, N. Y. Adv. Mar. 3 to Mar. 24.	Mar. 3
Mar. 28.	Columbia City, Ind.	Mar. 3
Mar. 28.	Madison, Minn.	Mar. 24
Mar. 29.	Great Falls, Mont. Adv. Mar. 3.	Mar. 3
Mar. 29.	Danville, Ill.	Mar. 17
Mar. 30.	Redwood Falls, Minn.	Mar. 17
Mar. 31.	Onawa, Ia.	Mar. 17
Mar. 31.	Redwood Falls, Minn.	Mar. 17
May 1.	Astoria, Ore.	Mar. 17
Apr. 2.	Wilmington, Del.	Mar. 10
Apr. 2.	Sibley, Ia.	Mar. 24
Apr. 4.	Lincoln, Neb.	Mar. 17
Apr. 5.	Sallisaw, Okla.	Mar. 17
Apr. 5.	St. Ignatius, Mont.	Mar. 10
Apr. 5.	Clarksdale, Miss.	Mar. 24
Apr. 14.	Savannah, Ga. Adv. Mar. 17, 24.	Mar. 17
Apr. 18.	Boston, Mass. Adv. Mar. 24.	Mar. 24
Apr. 18.	Powell, Wyo. Adv. Mar. 24.	Mar 24
Apr. 23.	Newport Beach, Cal.	Mar. 24
Apr. 25.	Malta, Mont. Adv. Mar. 24.	Mar. 24
May 1.	Quincey, Ill. Adv. Mar. 24.	Mar. 24

MISCELLANEOUS

Mar. 29.	Fill, Elizabeth, N. J.	Mar. 17
Mar. 30.	Incinerator, Bethesda, Md.	Mar. 24
Apr. 2.	Cranes, Philadelphia, Pa.	Mar. 17
Apr. 4.	Excavators—Denver, Col.	Mar. 10
Apr. 9.	Coal—Albany, N. Y. Adv. Mar. 17, 24.	Mar. 17
Apr. 9.	Cranes, Washington, D. C. Adv. Mar. 10, 24.	Mar 17
Apr. 9.	Crane, Charleston, S. C.	Mar. 24
Apr. 9.	Garbage Disposal, East Orange, N. J.	Mar. 24
Apr. 10.	Guard Rail, New York, N. Y. Adv. Mar. 24.	Mar. 24
Apr. 18.	Pumping Machinery, Yuma, Ariz.	Mar. 24

SEARCHLIGHT SECTION

PROPOSALS

Bids open April 6, 9, 11 and 13, 1917.

HIGHWAY IMPROVEMENTS

OFFICE OF THE STATE COMMISSION OF HIGHWAYS.

ALBANY, N. Y.

Sealed proposals will be received by the undersigned at their office, No. 55 Lancaster Street, Albany, N. Y., at 1 o'clock p. m., on Friday, the 6th day of April, 1917, for the repair of highways in the following counties:

Albany (one contract—Reconstruction).
Broome (one contract—Surface Treatment).
Cayuga (one contract—Resurfacing).
Chenango (one contract—Surface Treatment).
Clinton (one contract—Resurfacing).
Cortland (one contract—Resurfacing).
Dutchess—(one contract — Reconstruction).
Erie (one contract—Surface Treatment).
Jefferson (one contract—Surface Treatment).
Monroe (two contracts—Reconstruction and Resurfacing).
Oneida (two contracts—Resurfacing and Surface Treatment).
Onondaga (two contracts—Resurfacing).
Oswego (one contract—Resurfacing).
Rensselaer (one contract—Resurfacing).
Saratoga (one contract—Resurfacing).
Schenectady (one contract—Resurfacing).
Tompkins (one contract—Resurfacing).

Sealed proposals will also be received by the undersigned on Monday, the 9th day of April, 1917, for the repair of highways in the following counties:

Albany (one contract—Reconstruction).
Chemung and Yates (one contract—Surface Treatment).
Chenango (one contract—Resurfacing).
Dutchess (one contract—Resurfacing).
Essex (one contract—Resurfacing).
Fulton (one contract—Resurfacing).
Genesee, Livingston, Monroe and Wyoming (one contract—Surface Treatment).
Lewis (one contract—Surface Treatment).
Livingston (one contract—Resurfacing).
Montgomery (one contract — Resurfacing).
Oneida (one contract — Surface Treatment).
Otsego (one contract—Surface Treatment).
Onondaga (one contract—Resurfacing).
Orleans (one contract—Resurfacing).
Rensselaer (one contract—Resurfacing).
Schoharie (one contract—Surface Treatment).
Schuyler (one contract—Resurfacing).
Schuyler, Tioga & Tompkins (one contract—Surface Treatment).
Ulster (one contract—Reconstruction).
Washington (one contract — Surface Treatment).

Sealed proposals will also be received by the undersigned on Wednesday, the 11th day of April, 1917, for the repair of highways in the following counties:

Albany (one contract—Reconstruction).
Allegany and Steuben (one contract—Surface Treatment).
Cattaraugus and Chautauqua (one contract—Surface Treatment).
Chenango (one contract—Resurfacing).
Delaware (one contract—Resurfacing).
Greene (one contract—Reconstruction).
Monroe, Livingston and Ontario (one contract—Surface Treatment).

PROPOSALS

Madison (one contract—Surface Treatment).
Monroe (one contract—Reconstruction).
Montgomery (one contract — Surface Treatment).
Nassau (one contract—Resurfacing).
Onondaga (two contracts—Resurfacing).
Ontario (one contract—Resurfacing).
Orleans (one contract—Resurfacing).
Otsego (one contract—Surface Treatment).
Rensselaer (one contract—Reconstruction).
Steuben (one contract—Resurfacing).
Suffolk (one contract—Surface Treatment).
Ulster (one contract—Resurfacing).

Sealed proposals will also be received by the undersigned on Friday, the 13th day of April, 1917, for the repair of highways in the following counties:

Cayuga, Cortland, Otsego and Seneca (one contract—Surface Treatment).
Franklin and St. Lawrence (one contract—Surface Treatment).
Greene (one contract—Surface Treatment).
Herkimer (one contract—Surface Treatment).
Livingston (one contract—Resurfacing).
Monroe and Orleans (one contract—Surface Treatment).
Monroe and Ontario (one contract—Surface Treatment).
Montgomery (one contract—Resurfacing).
Otsego (one contract—Resurfacing).
Otsego and Delaware (one contract—Surface Treatment).
Rensselaer (one contract—Resurfacing).
Seneca (one contract—Resurfacing).
Steuben (two contracts—Resurfacing).
Sullivan (one contract—Resurfacing).
Tioga and Chemung (one contract—Resurfacing).
Washington (two contracts—Resurfacing and Surface Treatment).
Wayne (one contract—Resurfacing).
Yates (one contract—Resurfacing).

Maps, plans, specifications and estimates may be seen and proposal forms obtained at the office of the Commission in Albany, N. Y., and also at the office of the Division Engineers in whose divisions the roads are to be improved. The addresses of the division engineers and the counties in which they are in charge will be furnished on request.

The especial attention of bidders is called to "General Information for Bidders" in the itemized proposal, specifications and contract agreement.

EDWIN DUFFEY,
Commissioner.

I. J. MORRIS,
Secretary.

Bids open April 12, 1917.

CONCRETE HIGHWAY PAVING

GREENVILLE, MISS.

The Highway Commissioners of Washington County, Miss., will receive at their office in Greenville, Miss., on Thursday, April 12, sealed proposals for the surfacing with concrete of approximately eight hundred and thirty thousand (830,000) sq. yd. of highways according to plans and specifications on file. For information apply to J. S. Allen, Chief Engineer, Greenville, Miss.

J. S. ALLEN.

PROPOSALS

Bids open April 27, 1917.

NOTICE TO CONTRACTORS.

ROAD CONSTRUCTION

FAIRMONT, W. VA.

Sealed bids will be received until 12 noon, Friday, April 27, 1917, by the County Court of Marion County, W. Va., for the construction of approximately thirty-one miles of improved roads and streets in Lincoln District of said Marion County.

A certified check in the sum of $400 must accompany each bid. Successful bidders will be required to furnish a bond satisfactory to the County Court.

Plans and specifications for this work are on file in the County Clerk's Office, Fairmont, W. Va., and at the office of J. R. Wilson at the Court House, Fairmont, W. Va.

The County Court will furnish at least part of the material going into the construction of these roads; details of which can be found in the plans and specifications.

The County Court reserves the right to reject any or all bids.

A. G. MARTIN,
Clerk of the County Court,
Marion County, W. Va.

Bids open April 25, 1917.

NOTICE TO CONTRACTORS.

ROAD CONSTRUCTION

FAIRMONT, W VA.

Sealed bids will be received until 12 o'clock noon, Wednesday, April 25, 1917, by the County Court of Marion County, W. Va., for the construction of approximately twenty-two miles of improved roads and streets in Paw Paw District of said Marion County.

A certified check in the sum of $400 must accompany each bid. Successful bidders will be required to furnish a bond satisfactory to the County Court.

Plans and specifications for this work are on file in the County Clerk's Office, Fairmont, W. Va., and at the office of W. M. Linn, at the Court House, Fairmont, W. Va.

The County Court will furnish at least part of the material going into the construction of these roads, details of which can be found in the plans and specifications.

The County Court reserves the right to reject any or all bids.

A. G. MARTIN,
Clerk of the County Court,
Marion County, W. Va.

Bids open April 9, 1917.

CONCRETE AND BRICK PAVING

PLAINFIELD, N. J.

Sealed proposals will be received by the Common Council of the City of Plainfield, N. J., at the Council Chamber in said city, on Monday, April 9, 1917, at 8.30 o'clock p. m., for paving certain streets with reinforced concrete and with vitrified brick.

The approximate amount of the principal items of work to be performed is as follows:

20,000 sq. yd. of vitrified brick pavement.
28,000 sq. yd. of reinforced concrete pavement.
20,000 lin. ft. of concrete curb.

Plans, specifications and forms of proposal may be obtained at the office of Andrew J. Gavett, Street Commissioner, 151 North Avenue, Plainfield, N. J.

Big Jump in Cement—Railroad Gross Earnings Still Gaining

Likelihood of Expensive Construction Appears Less—Users of Steel Fear Government Wants Will Curtail Supply

AN ADVANCE of 15 cents a barrel, bringing the price of cement to contractors up to $1.77, not including sacks, has just taken place in the New York district. This is the largest single advance of the present movement, and is ascribed to rising production costs.

Railroad gross earnings for the country continue to show large gains over those of 1915 up to the end of the last year, and gross earnings of ten leading roads for January, as well as net earnings for the same roads, show a substantial gain over the figures for January, 1916. The railway wage dispute is definitely settled, and there is a feeling that the railroads may be allowed to adjust rates at least partly to cover the wage increase granted. It might be thought that the construction work long held in abeyance by this and other considerations would now come to the front, but as the war and the present period of prosperity advance this seems less likely. Operating costs are greatly increasing, and there is a feeling that present high prices of materials and commodities, and the present great business activity, may not continue long enough for the railroads to reap a return on a large construction program in the present period of prosperity, even should they start it at once. Except for such additional facilities as would be necessary if this country took an active part in the war, therefore, it is considered quite possible that many of the railroads will wait to carry out improvements till the next business depression, when the work can be done more cheaply.

According to press reports, private concerns using steel products are becoming anxious as to whether the allotment of steel capacity to the Government will affect their deliveries. There seems to be a good chance that it will, especially should this country become actively involved in the war, and further stiff advances in the price of structural materials have recently taken place.

Waterworks and Sewers

Bids are desired in Long Island City, N. Y., for constructing sewers on which $105,000 security will be required. Bids are also desired for constructing a filter plant at Indianola, Iowa. Stratford, Conn., is considering a sewer construction to cost $350,000. Bonds in the sum of $400,000 have been sold for the construction of a sewer system at Wilkes-Barre, Pa. A contract for waterworks construction to cost $173,000 is soon to be let at La Salle, Ill. The construction of a filter plant to cost $150,000 is under consideration at Whiting, Ind.

Buildings

Building work noted in this issue includes the following items:

	Kind	Cost
Contract awarded:		
Birmingham Ala.	Post office	$783,000
Proposed work:		
Philadelphia, Pa.	Department store	1,000,000
Atlantic City, N. J.	Hotel	3,000,000
Atlantic City, N. J.	Hotel	3,500,000
Follansbee, W. Va.	Steel plant	5,000,000
East Cleveland, Ohio	School buildings	575,000
Dallas, Tex.	Church	300,000
St. Cloud, Minn.	Automobile plant	5,000,000
Sioux City, Iowa	Hotel	750,000
Whittier, Cal.	Auditorium	300,000

Roads and Paving

Highway and paving work coming to notice during the week includes the following items, noted in this issue:

	Kind	Cost
Contract awarded:		
Douglas, Ariz.	Topeka	$340,000
Bid desired:		
Bayonne, N. J.	Asphalt, granite block	250,000
Spokane, Wash.	Highways	200,000
Proposed work:		
New Jersey	State highways	15,000,000
Pittsburgh, Pa.	Brick	225,000
Paducah, Ky.	Gravel	200,000
St. Louis, Mo.	Paving	454,000
Vancouver, Wash.	Concrete	1,300,000
Visalia, Cal.	Bonds for sale	2,200,000

Miscellaneous Headings

The lowest bid received for extensive work on the Fort Laramie Canal in Wyoming on March 15 was $477,000. The contract for rebuilding the Grand Island railroad bridge over the Missouri River at St. Joseph has been awarded at $800,000. A shipbuilding company at Quincy, Mass., contemplates additions to its plant to cost $1,500,000. A contract is to be let within two months at Paducah, Ky., for drainage construction costing $303,000. A company has been incorporated to build a $1,500,000 railroad near Tonopah, Nev.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Where name of official is not given inquiries should be addressed to City Clerk, County Clerk or corresponding official.

WATERWORKS AND SEWERAGE SYSTEMS

PROPOSED WORK

Caribou, Me.—State Legislature reported to have passed bill authorizing town to acquire the property of Caribou Water, Light & Power Co. to construct waterworks.

Braintree, Mass.—Town appointed committee to report a plan for a better sewerage system.

Brockton, Mass.—City will sell $30,000 waterworks bonds. Horace Kingman, supt. waterworks.

Rockland, Mass.—Reported City considering construction of sewer system and disposal plant near Concord St.; cost about $225,000. W. Worthington, engr., Dedham.

Bridgeport, Conn.—City considering extension of Dewey St. sewer; cost about $50,000. A. H. Terry, city engr.

Stratford, Conn.—State Legislature has been asked for permission to issue $350,000 bonds for sewers.

Sloan, N. Y.—City Council of Buffalo approved proposition granting permission to Village to make connection with Buffalo sewers, a privilege for which Buffalo will receive $56,700.

Butler, N. J.—Reported Standard Oil Co., 26 Broadway, New York, will lay about 7-mile pipe line detour around the Newark watershed.

Ogdensburg, N. J.—Boro. Council cannot award contract for constructing proposed water system because all bids were in excess of the estimate of $60,000.

Plainfield, N. J.—Common Council contemplates extending city sewerage system through North Front and West 2d Sts. and Madison Ave. Leighton Calkins, mayor.

Passaic, N. J.—City of Paterson, Bloomfield, Orange, Prospect Park, Halden, Nutley, Belleville, Acquackanonk, Rutherford and Union Twps. are reported to have signed the trunk sewer supplemental contract, which provides for completion of proposed sewer by Passaic Valley Sewerage Comn.

Ashbourne, Pa.—Ashbourne Improvement Assoc. considering the installation of sewerage system.

Athens, Pa.—Reported contracts will soon be let for construction of sewerage system; cost about $35,000. R. R. Fernow, engr., 817 Weightman Bldg. Philadelphia.

Darby, Pa.—Reported Darby, Yeadon and Collingdale will construct sewage disposal plant to protect Darby Creek from contamination; cost about $40,000. A. F. Damon, Jr., boro. engr., Darby.

Freemansburg, Pa.—Northampton County Water Co., which recently secured waterworks franchise from boro., is reported to have purchased site to be used for waterworks supply here.

Ogontz, Pa.—Reported Boro will hold election May 1 on question of issuing $625,000 bonds to install sewerage system.

Wilkes-Barre, Pa.—Hanover Twp. Comrs. sold $400,000 bond issue to be used for construction of sewerage system.

Galax, Va.—Reported City considering a bond issue to be used for installing sewer system. B. D. Beamer, city clk.

Harrisonburg, Va.—City Council said to be considering waterworks improvements, including a pumping station, at Laymans Spring, to cost about $20,000, and sludge beds at filtration plant, with other improvements, to cost $18,000. A dam is also suggested near Riven Rock; cost about $50,000.

Weston, W. Va.—Reported Weston Insane Asylum considering construction of sewage purification plant; cost about $45,000.

Columbus, Ga.—Election will probably be held in April on question of issuing $150,000 bonds for construction of certain storm sewers and for the conversion of several open streams into storm sewers.

Brooksville, Fla.—City reported to have sold bonds to be used for waterworks.

Inverness, Fla.—Reported City considering construction of waterworks and sewer system.

Johnson City, Tenn.—Senate reported to have passed a bill authorizing construction of sewers.

Canton, O.—City Council decided to spend about $80,000 for new system of air lift pumps and 10 new wells for the Union Dam section in the vicinity of 59th St., S. W.; this system will add about 16,000,000 gal. daily to the water supply.

Marietta, O.—Contract will soon be let for construction of concrete reservoir to cost about $75,000. Address Service Director.

Middletown, O.—Reported City will lay tile storm and sanitary sewers in portions of Henry, Van Elsmere and Elwood Aves., and Clayton St., Crescent Blvd. W. C. Morrison, city engr.

West Park, O.—Waterworks bonds for $65,000 will be sold April 17; F. F. Fenchter, village clk.

Whiting, Ind.—Reported City considering installing filter plant at 119th and Front Sts.; cost about $150,000. A. Exton, city engr.

Harrisburg, Ill.—City considering construction of sanitary sewer; cost about $70,000.

Jacksonville, Ill.—Jacksonville Eng. Co. presented to City Council estimate on the cost of an impounding reservoir at $68,989 to be constructed north of city.

La Salle, Ill.—City voted Mar. 20 to issue $23,000 waterworks bonds. Total cost of work proposed is $150,000. Ed. Byrne and Orrin Cypher, engrs., La Salle. Martin A. Kurkowski, city clk.

La Salle, Ill.—Contract will soon be let and bonds for $150,000 voted for waterworks improvements and $23,000 for water mains. Edward Byrne, city engr.

Potosi, Wis.—Village will hold election Apr. 3 on question of issuing $10,000 bonds to be used for waterworks, which will involve a pumping plant and concrete reservoir.

Audubon, Ia.—Reported City considering construction of 200,000 gal. reinforced concrete; 75,000 gal. tank on steel tower; artesian well and laying 6 miles of mains.

Mapleton, Ia.—Town considering water main extensions. G. G. Harris, town clk.

Sioux City, Ia.—City will install about 5½ miles of 8 to 12-in. sanitary sewers this season on North Riverside.

West Point, Ia.—Bonds for $15,000 sold by the town to be used for construction of waterworks.

Stillwater, Minn.—City voted $50,000 bond issue for extending water mains. Chas. A. Lammers, city clk.

Madison, S. D.—City will hold election Apr. 17 on question of issuing $50,000 bonds for installing sewerage system.

Casper, Wyo.—Reported City considering election to vote $300,000 bonds to install storm and sanitary sewers and $75,000 bonds to extend water mains.

Carthage, Mo.—City will probably soon begin work on construction of sanitary sewer in southwestern section. C. B. Gammon, mayor.

St. Joseph, Mo.—Senate reported to have passed bill granting permission to city to purchase or construct waterworks. Elliot Marshall, mayor.

Ft. Worth, Tex.—City considering construction of sewage disposal plant.

Houston, Tex.—Bond issues approved; $75,000 for waterworks, $25,000 street paving.

Temple, Tex.—R. D. Morgan, city engr., will soon let contracts on $30,000 concrete reservoir and settling tank.

Billings, Okla.—Engineers completed survey for sewer system. Address Mayor.

Blair, Okla.—City considering voting $20,000 bond issue for the improvement of waterworks.

Collinsville, Okla.—City considering bond issue for the improvement of waterworks.

Frederick, Okla.—City voted $35,000 bonds for waterworks improvements, $35,000 to purchase and improve privately owned electric light plant and $30,000 bonds for construction of storm sewers.

Guthrie, Okla.—Reported election will soon be held to vote on issuing bonds for waterworks improvement.

Raymond, Wash.—City Council accepted proposition of the Silver Mill Co. to pay $4,000 of the cost of constructing 3,000,000 gal. reservoir in Riverview for storage of water for use during the summer season. Improvements will cost $14,000.

McMinnville, Ore.—Contracts will soon be let for extension of proposed waterworks to Haskins Creek project; work includes 4 mi. of 14-in. and 8 mi. of 12-in. pipe. R. W. Jones city engr. estimates cost as follows: machine banded wood pipe $65,000; dipped steel pipe $125,000; c. i. pipe $160,000.

Los Angeles, Cal.—Bd. Pub. Service Comrs. voted to purchase site and construct pumping station at Avenue 43 and Arroyo Seco. Wm. Mulholland, ch. engr., Knickerbocker Bldg.

Modesto, Cal.—Election to be held by city Apr. 10 to vote $30,000 bonds for storm sewers, $15,000 for sanitary sewers, $10,000 for concrete swimming pool, $40,000 for paving, and $5,000 for extending water mains.

San Dimas, Cal.—San Dimas Water Co. will construct 5,000,000-gal. reinforced concrete reservoir 1 mile southeast of town.

Upland, Cal.—Olmsted & Gillelen, 1112 Hollingsworth Bldg., Los Angeles, engaged as cons. engrs. by city for proposed construction of outfall sewer system. Bonds will be voted.

Florence, Ariz.—Reported waterworks and electric light bonds for $50,000 will be sold April 9, by J. G. Bogard, town clk.

Longueuil, Que.—Town considering spending $30,280 for construction of sewers. A. Thurber, mayor.

New Toronto, Ont.—Council instructed engineers to prepare plans for waterworks extensions to cost about $40,000; work to include new sedimentation well, 2 new pumps, pump house extensions and mains on New Toronto and 8th Sts.

Oshawa, Ont.—Reported Town Council considering using water from stream instead of pumping from the lake; cost about $150,000. W. G. Worden, engr.

BIDS DESIRED

Upper Darby, Pa.—Until Apr. 10, by Bd Comrs. (William Pendelbury, secy.) for laying terra cotta pipe sewers, cost about $20,000.

Long Island City, L. I., N. Y.—Until Apr. 4, by Maurice E. Connolly, boro. pres., for constructing sewers and appurtenances in portions of Hull and Collins Aves. and 46th, Hughes and 14 other streets; to a total security $105,910.

New York, N. Y.—Until Apr. 5 by Marcus M. Marks, boro. pres., for alterations to receiving basins with inlets on portions of Broadway; security $5,500.

New York, N. Y.—Until Apr. 9 by Marcus M. Marks, boro. pres., for constructing receiving basins in portions of Madison Ave., Ave. D, 4th Ave., 19th and other sts., together with all inlets, etc.; security $14,700.

Johnstown, Pa.—Until Apr. 10, by Supt. Streets and Pub. Improvements, for constructing sanitary sewers; advertised in this issue.

West Chester, Pa.—Until Apr. 25 by Boro. for constructing pumping plant and sewers; cost about $15,000. N. R. Rambo, co. surv.

Washington, D. C.—Until Apr. 9, by Comrs., District Bldg., for constructing sewers in Dist. of Columbia; advertised in this issue.

Beaufort, N. C.—Until Apr. 20 by Mayor and Bd. Aldermen (C. H. Bushall, clk.) for constructing waterworks, sewerage and sidewalks; advertised in this issue.

Cairo Ga.—Until Apr. 10 by City (J. H. Connell, clk.) for constructing sewerage system; also for the sale of bonds; $28,000 bonds recently voted.

New Orleans, La.—Reported desired until Apr. 9 (new date) by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Washington, D. C., for constructing reinforced concrete cesspool and pump chamber at naval station here.

Woodsfield, O.—See "Roads and Paving."

Chicago, Ill.—Until Apr. 6 by Bd. Local Imprvs. (Edward J. Glackin secy.) for constructing sewers and manholes water supply pipes and drains, in portions of N. Claremont, Lovejoy Aves., and many other streets.

Indianola, Ia.—Until April 10, by E. P. Wright, city clk., for constructing filter plant; advertised in this issue.

Cooperstown, N. D.—Until Apr. 9 by City Council (B. D. Edmondson, clk.) for constructing sewer system and waterworks system.

Terry, Mont.—Reported desired until Apr. 3 for constructing trunk sewer; I. E. Thomas, town clk.; cost about $25,000.

Redrock, Okla.—Until Apr. 5 by town (J. M. Mitchell, clk.) for constructing waterworks system; work includes about 8254 ft. class B c. i. pipe of from 4 to 6 in., 7704 ft. 2-in. wrought iron pipe, together with castings, valves, tank and tower, 30,000 gal. capacity., etc. Benham Eng. Co., Colcord Bldg., Oklahoma City.

PRICES AND LETTINGS

★*Indicates award of contract.*

Reading, Mass.—Following bids opened Mar. 24 by town for furnishing and laying sewer pipe in sections 1 and 2 as follows: Sect. 1, Bruno & Pettitti, 18 Tremont St., Boston, $39,199; D' Onfro Bros & Little, Leominster, $41,812; John E. Palmer, Old South Bldg., Boston, $50,068; Sect. 2, Sousi & Williams, Boston, $30,213; Middlesex Constr. Co., Medford, $37,383; Frank Drinkwater, Rosendale, $42,923.

Norwalk, Conn.—Following are 4 bids opened Mar. 24 by Comrs. Second Taxing Dist., for additions to water filtration plant: Suburban Eng. Co., 15 W. 38th St., New York, $22,874; Alfred Brown, South Norwalk, $25,875; J. E. Bunting Co., Flushing, N. Y., $27,000; T. J. Foley & Co., South Norwalk, $29,841.

Geneva, N. Y.—Following are 3 bids opened March 21 by Bd. Pub. Wks. for additions to slow sand filtration plant: J. H. Ripley, 50 Park Place, New York City, $26,298; Suburban Eng. Co., 15 W. 38th St., New York City, $31,929; J. W. Schaff Co., Mutual Life Bldg., Buffalo, N. Y., $34,058; engineer's estimate, $40,000.

Newark, N. J.—Following are 4 lowest bids opened Mar. 22 by Bd. Street & Water Comrs., for construction of Delavan Ave. Sewers, including, 2,590 ft. c. i. pipe; 3,790 ft. of 6 to 18-in. vitri. pipe; 1 special manhole; 1 chimney manhole; 18 standard manhole; 2 double manholes; 11 basins; 105 markers: F. D. Leffingwell, 38 Spring St., Montclair, $33,383; P. Mauriello, Orange, $38,156; Chas. Ippolito, 252 Main St., Orange, $39,350; Harrison Craig & Co., Newark, $39,958.

★**Wellsburg, W. Va.**—Contract awarded by Street Comn. (bids opened Mar. 20) for construction of Harvey Run Sewer to B. O. Cresap, Wellsburg, at $17,268.

★**Nashville, Tenn.**—Contract awarded by City for extension of Phillips-Buttorff sewer to J. P. Lewis, Franklin Park, Nashville, at $18,024.

★**Coschocton O.**—Contract awarded by Safety Director Sam Ashman for storm and sanitary sewer on Orange St. to Coshocton Constr. Co., Coshocton, at $10,500; Henderson Bros. bid $10,905.

★**New London, O.**—Contract for construction of waterworks awarded as follows: Steel tank and tower to Pittsburgh-Des Moines Steel Co., Curry Bldg., Pittsburgh, Pa., at $6,000; c. i. pipe to Hardware & Supply Co., Hower Bldg., Akron, O.; valves and hydrants to Rensselaer Valve Co., Troy, N. Y. Contract for pumps and other work will be let next week. W. P. Curtiss, clk. bd. pub. affairs.

★**Wilmington, Ill.**—Contract awarded (bids opened Mar. 15) by City for constructing water mains, including about 13,285 ft. of 4 to 8-in. pipe, etc., to The Embankment Co., Joliet, at $30,607; other bidders, Menahan Bros., Chicago, $30,767; A. C. Albredt, Kewanee, $31,479; Public Service Constr. Co., Krug Bldg., Omaha, Neb., $31,726. J. C. Thompson, mayor.

Sheboygan, Wis.—Following bids opened March 19 by City for construction of sewer system in southwestern part of City; (a) vitri. lined concrete sewer, (b) segmented block, 48-in. and 36-in.: E. Aldag, Jr., Co., Sheboygan, (a) $51,242, (b) $50,065; F. E. Kaminski, Watertown, (a) $56,618, (b) $50,746; Central Constr. Co., Sheboygan, (a) $53,244, (b) $53,244; W. O. Bahr, Manitowoc, (a) $57,834, (b) $57,564. Arthur L. Boley, asst. city engr.

★**Council Bluffs, Ia.**—Contract awarded by City for laying 2 miles of 2, 6, 8 and 12-in. water mains to Hammond-Byrd Iron Co., American Trust Bldg., Birmingham, Ala., at $22,000.

★**Hopkins, Minn.**—Contract awarded for construction of 14,336 ft. 8, 10, 12, 15 and 22-in. vitri. clay and iron pipe sewers to Wm. Domforth, 707 Germania Life Bldg., St. Paul, Minn., at $36,500.

★**Big Springs, Tex.**—Contract awarded by City for construction of sewer system and sewage disposal plant to Winslett-Eldridge Co., 1010 Main St., Dallas, at $25,000. Henry E. Elrod, engr., Interurban Bldg., Dallas.

Okmulgee, Okla.—Benham Eng. Co., Colcord Bldg., Oklahoma City, will prepare plans and supervise construction of improvements to water and sewer system. Bonds for $300,000 will be voted on.

★**Denver, Col.**—Contract awarded by Bd. Directors of Rio Grande Drainage Dist. for construction of 44 miles of underground conduit to Gaffy & Keefe Constr. Co., 24 S. Kalamath St., Denver, at $117,000.

La Canada, Cal.—Contract awarded for construction of reinforced concrete reservoir 135 ft. in diameter and 14 ft. deep to Paul H. Ehlers, 5613 Harold Way, Los Angeles.

Seal Beach, Cal.—Following are 4 lowest bids opened Mar. 15 by city for construction of sewer system: John Sutalo, 308 Bullard, Bldg., $33,619; J. Chutuk, $34,378; James Kennedy, 901 Washington Bldg., $35,221; Mlagenovich & Gillespie, 219 Bloom St., $36,450 (bidders all of Los Angeles).

Bonners Ferry, Idaho. — Council plans election to vote $85,000 bonds to be used for waterworks, to include crib dam on Snow Creek about 9 miles south of city, 22-in. wooden pipe and concrete reservoir, 150,000 gal. capacity. On north side a similar reservoir, steel pipe distributing system. Plant will supply 825,000 gal. daily.

Rupert, Idaho.—Following are 4 lowest bids opened by city for main outlet sewer, including 1 septic tank, 1 railroad crossing, 500 ft. 18-in. tile pipe, 96 ft. 18-in. c.-i. pipe under railroad crossing, 3550 ft. 12-in. tile pipe, 14 manholes, 1 outlet structure; Sewage Improvement Dist. No. 1, 37,510 ft. of from 6 to 15-in. pipe, 90 manholes, 10 flush tanks, 10 lampholes, 2 pumping stations: R. M. Bardser & Co., Pocatello, $78,713; Charles Helmer, Emmett, $81,287; Sam A. Fortner, American Falls, $82,443; H. W. Perham, St. Anthony, $84,218. W. T. Pierce, city engr.

STRUCTURAL STEEL WORK

PROPOSED WORK

Boston, Mass.—City intends reconstructing Brookline Ave. bridge over Boston & Maine RR. (A. B. Corthell, ch. engr., Boston, Mass.) tracks, leading to Fenway Park; estimated cost $55,000. J. M. Curley, mayor.

Albany, N. Y.—State Highway Dept., Albany, contemplates removing old bridges spanning abandoned portions of Erie and Champlain canals and constructing bridge crossings with solid embankments in their places at estimated cost of $45,800; $26,000 of which will be used to remove bridges over old Champlain canal in Washington and Saratoga Counties.

Elizabeth, N. J.—Bill authorizing survey for proposed bridge over Newark Bay, from Bergen Point, Bayonne, to Elizabeth, passed by House of Assembly; cost will be borne by Hudson and Union counties (Jersey City and Elizabeth respective co. seats), and the state.

Freehold, N. J.—Bd. Freeholders (Wm. M. Bergen, chmn. finance com.), considering construction of bridge over Shark River at estimated cost of $50,000, for which plans will probably be prepared by Strauss Bascule Bridge Co., Chicago, Ill., and graveling sections of A St., Belmar and 1st Ave., Avon, in connection with bridge site. Geo. D. Cooper, co. engr., Red Bank, N. J.

Philadelphia, Pa.—No bids were received by Dept. Pub. Wks., on Mar. 22, for construction of bridge over Philadelphia, Germantown and Norristown R. R., on line of Harvey St.; estimated cost $10,000.

Port Trevorton, Pa. — State Highway Dept., Harrisburg, intends constructing a $200,000 bridge here over Susquehanna River.

South Bethlehem, Pa.—State Water Supply Comn., Harrisburg, has granted permission to Bridge Comn. of the Bethlehems to construct a $25,000 temporary bridge over Lehigh River between here and Bethlehem while the $1,000,000 bridge is being erected.

Oglethorpe, Ga.—County voted $100,000 bonds for proposed construction and improvement of bridges.

Morristown, Tenn.—Southern RR. (B. Hermann, ch. engr., Washington, D. C.) intends replacing every frame trestle between here and Salisbury, N. C., distance of 228 miles, with steel and concrete structure, as soon as work of straightening line has been completed.

Tullahoma, Tenn.—Nashville, Chattanooga & St. Louis RR. (Theo. F. Speiden, gen. mgr., Nashville, Tenn.) intends making 14-ft. cut on Atlantic St. extending through central part of town and constructing viaducts on Grundy, Lincoln and Warren Sts.

Cincinnati, O.—Cincinnati Southern RR. (C. Dougherty, ch. engr., Cincinnati), intends constructing a new $2,000,000 bridge over 8th St. and raising grade of street to 70-ft. above low water.

Kenton, O.—Bridge bonds for $30,000 will be sold Apr. 9 by Ulrich J. Pfeffer, co. aud.

Lorain, O.—Plans being prepared by C. M. Osborne, city engr., to construct bridge over Black River at a point near 17th St.

Milan, O.—Lake Erie & Western RR. (J. K. Conner, ch. engr., Indianapolis, Ind.), Co. Comrs., Sandusky, and village trustees considering construction of bridge or trestle from hill west of village and lower grade of road.

Mishawaka, Ind.—St. Joseph Co. Comrs., South Bend, intend constructing bridge over St. Joseph River here, at estimated cost of $85,000.

Cairo, Ill.—Plans under consideration for construction of a "Y" bridge spanning both the Mississippi and Ohio rivers here. Address Willford W. Beach, Huron, S. D.

Pontiac, Ill.—County voted $40,000 bonds to construct new Mill St. bridge; engineer's estimate, $46,220. R. W. Osborn, co. highway supt.

Boone, Ia.—Minneapolis & St. Louis RR. (R. G. Kenly, ch. engr., Minneapolis, Minn.) intends constructing viaduct here, at estimated cost of $29,000.

Kansas City, Mo.—See "Roads and Paving."

Waynoka, Okla.—County contemplates constructing bridge over Cimarron River at estimated cost of $50,000.

Mt. Vernon, Wash.—Plans being prepared by W. E. Costello, co. engr., to improve the Mt. Vernon bridge with a 220-ft. steel span and piers; estimated cost $33,000. W. R. Arges, co. aud.

Oregon City, Ore.—Reported Southern Pacific RR. (W. Hood, ch. engr., San Francisco, Cal.) intends constructing a $14,000 steel bridge here.

Colusa, Cal.—Bd. Supervs. intend reconstructing bridge between here and Williams under supervision of State Highway Comn., at estimated cost of $20,000.

Fairfield, Cal.—Plans being prepared by Strauss Bascule Bridge Co., Chicago, Ill., to construct bridge over Sacramento River for Bd. Supervs. of Sacramento and Solano Cos. (Sacramento and Fairfield, respective co. seats); estimated cost $150,000.

Santa Barbara, Cal.—Bd. Supervs. intends constructing the Arroyo Hond and Refugio bridges at estimated cost of $50,000.

St. Tite, Que.—Village considering construction 4 bridges; estimated cost $10,000. J. E. Vallee, engr., care J. Cloutier, secy.-treas.

BIDS DESIRED

Dowington, Pa.—Until May 1 for constructing stone bridge; cost about $22,000. N. R. Rambo, co. surv., West Chester, Pa.

Owensboro, Ky.—Until Apr. 4 by Co. Clk. for constructing steel bridge over Panther Creek; work includes about 112,000 lb. structural steel and 9680 lb. steel reinforcement; Chas. D. Snead, bridge engr., Frankfort.

Franklin, O.—Until Apr. 5 by county clk. for constructing steel bridge over Red River at Henry Ford; to be 2 spans one 80 ft. and one 100 ft.; about 136.5 cu. yd. concrete and 10,520 lb. reinforcing steel; Chas. D. Snead, bridge engr., Dept. Pub. Rds., Frankfort.

Bluffton, Ind.—Reported desired until Apr. 4, by Co. Comrs., Wells Co., for constructing 25 bridges and retaining walls; appropriation about $24,719.

Shelbyville, Ind.—Reported desired until April 3, by F. W. Fagel, co. aud., for constructing and repairing 11 bridges.

Winamac, Ind.—Reported desired until April 3, by W. E. Munchenburg, co. aud., for constructing 4 steel and 2 concrete bridges.

Illinois.—Until April 11, by State Highway Comn., Springfield, for constructing Indian Ford Bridge, about 2 miles from London Mills, one steel span of 140 ft. and one reinforced concrete span 35 ft., roadway 18 ft.; about 128,430 ft. of structural steel and 24,790 lb. reinforced concrete are to be used, cost about $14,680.

Hampton, Ia.—Until Apr. 10 by E. D. Haecker, co. aud., for two 34 x 18 ft. deck girder bridges in Osceola Twp., and one 70 x 18 ft. pony truss bridge and one concrete pier in Mott Twp.

Waterloo, Ia.—Reported desired until Apr. 3 by Black Hawk Co. for constructing bridges; J. J. Rainbow, co. aud.

Devils Lake, N. D.—Reported desired until Apr. 3 by Co. Comrs. (J. A. Kramer, aud.) for constructing steel or reinforced concrete bridge.

Eureka Springs, Ark.—See "Roads and Paving."

The Dalles, Ore.—Reported desired until April 4, by Co. Court, for constructing two bridges on Columbia River Highway between here and Petersburg (Wasco. Co. seat). L. B. Fox, clk.

Coalinga, Cal.—Until Apr. 16, by C. T. Walker, city clk., for furnishing and erecting steel water tank and tower; Floyd G. Dessery, engr., 514 Central Bldg., Los Angeles.

Clifton, Ariz.——Until May 4, by Town Council (Mat. Danenhauer, clk.), for constructing two steel bridges; A. J. Kerr, town engr., advertised in this issue.

PRICES AND LETTINGS

★*Indicates award of contract.*

Philadelphia, Pa.—Following are bids opened Mar. 22 by Dept. Pub. Wks., for construction of bridges: 5th St. over Richmond branch of Philadelphia & Reading Ry., M. & J. B. McHugh, 392 N. Market St., $23,900; W. H. Johnson & Co., $22,965; Ashburner St. over Philadelphia & Trenton R. R., Cantrell Constr. Co., 21st and Sedgley Sts., $152,000; John McMenamy & Co., Harrison Blvd., $136,857; Linden Ave., over Philadelphia & Trenton R. R., Cantrell Constr. Co., $132,000; John McMenamy & Co., $105,499.

★**Ft. Myers, Fla.**—Contract awarded by Caloosahatchee Valley Highway Special Road and Bridge Dist., Lee Co., to W. R. Wallace & Co., at $11,940, to construct steel and concrete bridge over Billy's creek.

★**Clinton, Ia.**—Contract awarded by Bd. Supervs. on Mar. 16 to J. R. Kane to construct 48 new steel highway bridges at $49,000, to replace old wooden structures.

Blue Island, Ill.—Following are bids opened March 22 by Sanitary Dist. of Chicago (John McGillen, clk., 910 S. Michigan Ave.), Chicago, Ill., for furnishing, fabricating and delivering metal work for railroad bridges in Blue Island, Ill., over Calumet-Sag Channel: (a) Strobel Steel Constr. Co., 53 W. Jackson St., Chicago, Ill., $145,237; (b) The Ketler-Elliott Erection Co., 155 N. Clark St., Chicago, Ill., $149,519; (c) The Toledo Bridge & Crane Co., Dorr St. and Lake Shore RR., Toledo, O., $153,402; (d) Fort Pitt Bridge Works, House Bldg., Pittsburgh, Pa., $162,648; (e) McClintic-Marshall Co., 38 S. Dearborn St., Chicago, Ill., $173,339; unit figures as follows:

	(a)	(b)	(c)	(d)	(e)
(1) Baltimore & Ohio Chicago Terminal RR. bridge:					
670,000 lb. structural steel	$0.0583	$0.0574	$0.0631	$0.0655	$0.07
38,000 lb. end bearings and miscel. metal	0.104	0.112	0.115	0.1275	0.1235
(2) Grand Trunk Western Ry. bridge:					
670,000 lb. structural steel	0.0563	0.0589	0.0593	0.061	0.0652
50,000 lb. end bearings and miscel. metal	0.104	0.116	0.118	0.12	0.1235
(3) Chicago, Rock Island & Pacific Ry. and Baltimore & Ohio Chicago Terminal RR. connecting track bridge:					
120,000 lb. structural steel	0.0533	0.0584	0.056	0.061	0.0652
2,300 lb. end bearings and miscel. metal	0.104	0.1154	0.14	0.1275	0.1235
(4) Chicago, Rock Island & Pacific Ry. bridge:					
860,000 lb. structural steel	0.0558	0.0574	0.057	0.0627	0.0677
45,000 lb. end bearings and miscel. metal	0.104	0.109	0.1125	0.1225	0.1235

Providing contracts for bridges are awarded separately, bids are: (a)—(1) $44,018, (2) $43,591; (3) $6,815; (4) $53,958. (b)—(1) $43,719; (2) $45,933; (3) $7,393; (4) $54,269. (c)—(1) $46,647; (2) $45,631; (3) $7,042; (4) $54,082. (d)—(1) $49,065; (2) $47,205; (3) $7,673; (4) $59,864.

★**Grand Forks, N. D.**—Contract awarded March 15 by Co. Comrs. to Jardine & Anderson, Fargo, N. D., at $30,000, to construct bridges.

★**St. Joseph, Mo.**—Contract awarded by St. Joseph & Grand Island RR. (E. Stenger, gen. mgr., Omaha, Neb.) to Missouri Valley Bridge & Iron Co., Leavenworth, Kan., to reconstruct bridge over Missouri River here. American Bridge Co., 30 Church St., New York City, has contract for iron work in new pivot pier; total cost $800,000.

Oakdale, Cal.—Contract awarded by Bd. Superv., Modesto (bids opened Mar. 12), for constructing 100-ft. steel bridge across Little John Creek, north of Oakdale, to W. D. Voorheis & Son, Stockton, at $8,994 for bridge proper and 50 cts. cu. yd. for excavating.

REINFORCED CONCRETE

PROPOSED WORK

Quincy, Mass.—Contracts will be awarded by Metropolitan Park Comn., 18 Tremont St., Boston, Mass., as soon as revised plans have been approved by War Dept. and Waterway and Public Lands Comn., for the construction of 752-ft. long reinforced concrete bridge, 61 ft. wide, over Neponset River between here and Neponset; bridge will have electrically operated Scherzer roller lift draw with 50-ft. clearance. John R. Rablin, engr., 18 Tremont St., Boston, Mass.

Elm, N. J.—Central RR. of New Jersey (A. E. Owen, ch. engr., 143 Liberty St., New York City) intends constructing new concrete abutments and wing walls to bridge on southern division.

Jersey City, N. J.—Delaware, Lackawanna & Western RR. (R. J. Ray, ch. engr., Hoboken, N. J.) contemplates constructing a $150,000 concrete bridge eliminating grade crossing near where Newark and Belleville turnpikes meet.

Norfolk, Va.—Contract will soon be let by Colonial Place Corp. for constructing 4500 ft. concrete seawall; cost $27,000. John M. Baldwin, 118 Brooke Ave., engr.

Newton, N. C.—Contracts will soon be awarded by Co. Comrs. of Catawba, Iredell and Caldwell Cos. (Newton, Statesville and Lenoir, respective co. seats), to construct concrete abutments to new steel bridges over Catawba River at Island Ford and Buffalo Shoals between Catawba and Iredell Cos. and at Horseford between Catawba and Caldwell Cos.

Columbus, O.—Plans being prepared by Watson Engr. Co., Cleveland, for proposed reinforced concrete 4-span bridge over Olentangy river at 3d Ave. and at Lane Ave.; estimated cost $80,000 each.

Richmond, Ind.—Contracts will soon be awarded by Co. Comrs. to construct $180,000 concrete bridge on Main St.; bridge will have 3 spans, each 125 ft. long, with 2 approach spans, each 40 ft. long, with roadway 42 ft. between curbs and with 2½ per cent grade, cantilever sidewalks, 8 ft. wide; county is also considering construction of $185,000 bridge on South G St. similar to Main St. bridge. J. W. Mueller, engr., New Castle, Ind.

Jefferson, Ia.—All bids received March 12 by county to construct one 20-ft. slab and five concrete girder highway bridges rejected because too high; work will be done by county by force account. B. S. McCully, co. aud.

Waurika, Okla.—Plans being prepared by Paul Emery, engr., Topeka, Kan., for proposed concrete bridges over large streams in county. Address W. P. Harwell, co. comr.

Chehalis, Wash.—Plans completed by J. D. Neville, co. engr., for the construction this summer of following bridges: 90-ft. reinforced concrete span at 1st and Bridge Sts., Centralia; 100-ft. span over north fork of Newaukum River, near Forest, including removal of present bridge; 60-ft. span, with necessary piling, planking and approaches, over Mill Creek.

Olympia, Wash.—Plans being prepared by R. F. Wood, city engr., to construct a $100,000 concrete bridge on W. 4th St., over Deschutes River.

Tacoma, Wash.—Reported Carstens Packing Co.'s plant, recently destroyed by fire, will be rebuilt of concrete, at cost of $100,000.

Glendora, Cal.—Plans being prepared by O. A. Gierlich, engr., El Monte, Cal., to construct 2 concrete bridges over Dalton creek.

Santa Ana, Cal.—Plans completed by C. C. Bonebrake, city engr., to construct $30,000 reinforced concrete bridge on N. Main St., and $5600 wood and steel bridge on N. Flower St.; costs will partly be borne by Pacific Electric Ry. Co. (Geo. E. Pillsbury, ch. engr., Los Angeles.)

Phoenix, Ariz.—Bd. Supervs. considering two plans for proposed bridge over Gila River on Ajo road; one is a reinforced concrete bridge dam, costing $152,076, other a separate concrete dam and concrete bridge costing $119,448.

BIDS DESIRED

Passaic, N. J.—Until Apr. 4, by Bd. Freeholders (Geo. W. Botbyl, clk.), for constructing new concrete copings on present parapet walls together with new concrete curbs, gutters and catch basins on Haledon Ave. culvert, in Haledon Boro.

Miami, Fla.—Reported desired until Apr. 15, for erecting 7-story, 50 x 92 ft., reinforced concrete apartment house for Frank Brown; E. A. Nolen, archt.

Fleming, Ky.—Reported desired until April 20, by Acme-By-Products Co., for erecting 2 concrete tipples; cost about $15,000.

Hellier, Ky.—Reported desired until Apr. 24, by Elkhorn Consolidated Coal Co., for constructing 2 concrete tipples.

Huntington, Ind.—Reported desired until April 10, by O. E. Eviston, co. aud., for constructing 6 reinforced concrete bridges and culverts, and repairing 8 bridges.

Bloomfield, Ia.—Reported desired until Apr. 4 by L. A. Patterson, co. aud., for 20 tons reinforcing bars, 2000 reinforced concrete 15 in. culverts, 1700 ft. of 18, 24 and 36 in. sewer pipe.

Rock Rapids, Ia.—Until April 10, by E. J. Riegel, co. aud., for constructing 88 concrete box culverts and four 16-ft. slab bridges; W. C. Wycoff, co. engr.

Waco, Tex.—Until Apr. 12 by Mayor and Board of Comrs. for constructing reinforced concrete bridges in this city. G. B. Gurley, city engr.

PRICES AND LETTINGS

★*Indicates award of contract.*

Charleston, S. C.—Contract awarded by city to Bryan & Co., Jacksonville, Fla., at $41,585, for constructing 1000 ft. concrete seawall, 25,000 cu. yd. filling dredged from river. J. H. Dingle, city engr.

★**McKenna, Wash.**—Contract awarded to C. G. Huber, Central Bldg., Seattle, Wash., at $27,987 to construct concrete bridge here.

★**Olympia, Wash.**—Contract awarded by Comrs. Piers and Thurston Counties to C. C. Huber, Central Bldg., Seattle, at $27,987, to construct the McKenna bridge, of concrete; other bidders, R. E. Meith, Olympia, at $27,960, for steel; H. C. Malott, Seattle, at $28,310, for concrete; C. Barnette, Olympia, at $28,590, for steel. Anna Gaston, aud., Thurston Co.

Seattle, Wash.—All bids opened by Dept. Pub. Wks. to construct concrete substructure of Eastlake bridge over Lake Washington canal, rejected; new bids will be asked. Low bidder, Erickson Constr. Co., Seattle, Wash., at $195,704 for placing concrete dry; at $270,989 for placing concrete wet.

★**Nevada.**—Contract awarded by Salt Lake & Los Angeles Ry. (J. Richards, secy. and gen. traf. mgr) to Houghton Constr. Co., 503 Market St., San Francisco, Cal., at $90,000, to construct several reinforced concrete bridges and concrete abutments for steel bridges on its lines in this state.

ROADS AND PAVING

PROPOSED WORK

Concord, Mass.—Town intends reconstructing 9300 lin. ft. with bituminous macadam on 2 roads, one 7300 ft. long, other 2000 ft. long, 1100 ft. of which will be 18 ft. wide, remainder 41½ ft. wide; estimated cost $30,070, in addition 2000 lin. ft. of waterbound road will be paved with Tarvia B. This is part of work for which $56,000 was recently appropriated, $5,000 of which is for proposed oiling of highways and $1,000 for care of parks and playgrounds. J. M. Keyes, chmn., bd. road comrs.

Leominster, Mass.—City intends paving 3000 sq. yd. with paving blocks on cement base and 17,000 sq. yd. with heavy bituminous macadam; estimated cost $26,000, and for maintenance and new equipment for streets city intends spending $42,000. J. H. Johnston, supt. streets.

Bristol, Conn.—City intends spending about $55,000 for new street work this summer.

Albany, N. Y.—Largest amounts for road repair work have been apportioned to Rensselaer, $191,720 and Albany, $154,475 counties by State Highway Comn., Albany.

Rochester, N. Y.—Specifications are being drawn by F. T. Elwood, city engr., for proposed annual repairs to asphalt pavements, for which bids will shortly be asked.

Asbury Park, N. J.—City intends paving Kingsley St. at estimated cost of $20,000. Geo. W. Pittenger, street comr.

Collingswood, N. J.—Contract will be let about June (not March 1, as previously stated) by Boro. to pave several streets with granite block on concrete basis; estimated cost, about $150,000. J. C. Remington, Jr., boro. engr., Camden, N. J.

Jersey City, N. J.—Plans being prepared by Thos. J. Wasser, co. engr., to pave Newark Turnpike with granite block; former bid of $487,000 for wood block annulled by Court of Errors and Appeals.

New Jersey.—State intends constructing 15 routes, 600 miles, of state highways at estimated cost of $15,000,000, of which some are: From Elizabeth to Trenton; from Trenton to Camden; from Newark to Paterson; from Paterson to Fort Lee Ferry; from Bridgeton to Cape May, Court House.

Paterson, N. J.—Plans being prepared by Garwood Ferguson, co. engr., to pave Lakeside Ave., 3 miles long, along west side of Greenwood Lake from Cooley's bridge to New York State line, with macadam; estimated cost, $50,000.

South River, N. J.—Bd. Freeholders, New Brunswick, contemplates improving Main St. from the river to Tanner's Corner at estimated cost of $90,000. Alvin B. Fox, co. engr.

Swedesboro, N. J.—Bd. Freeholders, Salem, contemplate improving Swedesboro-Woodstown road to Salem Co. line. I. C. Smashey, clk.

Bradford, Pa.—City intends paving with vitrified brick portions of High St. ($12,680) and South Ave. ($11,533). E. C. Charlton, city clk.

Brownsville, Pa.—Boro. intends grading, paving, 16 ft. wide, portions of 2d, Water and 18th Sts. with brick on 1½-in. of sand on 6-in. concrete, and constructing curbs with concrete 6-in. thick and 22-in. deep on 4-in. of broken stone and gravel on same. T. A. Waggonner, boro. secy.

Pittsburgh, Pa.—State Legislature authorized Allegheny Co. Comrs. to construct Perrysville and Butler plank roads.

Pittsburgh, Pa.—Quarter Sessions Court approved proposed construction of McKeesport road from East Carson St. to Hays Boro., with brick and constructing monolithic type concrete curb and base on same; estimated cost, $225,000; also Renzie road in Elizabeth Twp., 5500 ft. long, with brick; estimated cost, $63,000. Joseph M Swearingen, judge.

Smethport, Pa.—Contracts will be awarded by McKean Co., this summer, to construct roads for which $750,000 bonds were voted last fall.

Sunbury, Pa.—County planning issuance of $400,000 bonds as state will contribute equal amount for contemplated construction of new highway and improvement of present roads.

Williamsport, Pa.—City intends selling, probably in April, $60,000 bonds to resurface asphalt pavements and construct a number of sewers. Geo. K. Harris, supt. pub. impts.

Seaford, Del.—State Legislature authorized town to borrow $25,000 for proposed street improvements.

Charlotte C. H., Va.—Road improvement bonds for $35,500 will be sold Apr. 9, by Committee Bd. Superv. (Geo. B. Russell, chmn.)

Richmond, Va.—Contract will soon be awarded by Administration Bd. to widen portion of Hull St. and opening of intersecting street between Hull St. and Midlothian turnpike.

Buckhannon, W. Va.—County voted on Mar. 17, $180,000 bonds for proposed permanent road improvements. Ernest Phillips, co. clk.

Hamlin, W. Va.—Election will be held in 8 districts of Lincoln Co. latter part of April to vote $650,000 bonds for proposed construction of permanent roads.

Parsons, W. Va.—Road bonds for $60,000 will be sold Apr. 10 by H. F. Colebank, co. clk.

Easley, N. C.—Town will hold election April 16 to vote $45,000 bonds for proposed paving 3 miles streets with vitrified brick, constructing about 7 miles sidewalks and installation of sewerage system in principle streets.

Hickory, N. C.—City intends paving 3 miles of streets with macadam, for which surveys are being made. John W. Ballew, city mgr.

Darlington, S. C.—Street improvement bonds for $50,000 will be sold April 6, by Town Council. (Eugene Vaughn, clk.)

McCormick, S. C.—Co. Comn. for Permanent Highways (J. L. Kennedy, clk.), sold $175,000 bonds on Mar. 20.

Pickens, S. C.—State Legislature, Columbia, passed bill authorizing Pickens County to issue $250,000 bonds for proposed road work.

Union, S. C.—Union Twp. on Mar. 20 voted $125,000 bonds for the proposed construction of roads within township.

Atlanta, Ga.—City Council intends resurfacing portion of West 15th St., paving portion of Haynes St., laying gutter in portion of Beatie Ave. and repairing 10 other streets. Henry L. Collier, ch. of constr.

Arcadia, Fla.—Moore Haven Dist., De Soto Co., petitioned Co. Comrs. to hold election to vote $225,000 bonds for proposed road work. Address Comr. Welles.

Ft. Myers, Fla.—Caloosahatchee Valley Highway Special Road and Bridge Dist., Lee Co., sold $190,000 road and bridge bonds.

Kissimmee, Fla.—The Third Special Road Dist., Osceola Co., considering issuing $275,000 bonds for proposed construction of modern road to Brevard Co. line.

Alexandria, La.—Road Dist. No. 14, comprising Pineville, Tioga and Bells precincts in Rapides Co., voted $75,000 bonds for proposed construction of section of Jefferson highway, connecting Pineville with Grant parish section of highway and other roads.

Athens, Ala.—City intends issuing $135,000 street paving bonds; amount to be assessed against abutting property owners. A. R. Henderson, mayor.

Attalla, Ala.—City will hold election on April 12 to vote $11,000 street and school bonds.

County intends hard surfacing Hokes Bluff road from here as far as $20,000 expenditure will permit. S. J. Cumming, co. engr., Gadsden, Ala.

Colfax, La.—Road bonds for $150,000 will be sold May 16, by W. N. Brownlee, pres. bd. superv., Grant Parish.

Lobdell, La.—Good Roads Dist. No. 2 will shortly hold election to vote $75,000 bonds to improve Chamberlain to Erwinville and other roads. Address A. W. Norman, chmn.

Slidell, La.—Plans being prepared by X. A. Kramer, engr., Magnolia, Miss., for proposed street improvements here. E. F. Perilloux, town clk.

DeKalb, Miss.—Kemper Co. voted $35,000 bonds for proposed construction of gravel highway through southern beat.

Liberty, Miss.—The Fourth Supervs. Dist., Amite Co., voted $50,000 bonds to construct link in S. S. Prentiss highway between Natchez and Mobile; work will shortly start. Address Co. Clk.

Athens, Tenn.—County contemplates constructing or repairing 64 roads at estimated cost over $350,000; largest jobs being road from Calhoun and Luskville pike near rock bridge to Shelton church, $25,000, and from McCaslins to pike at Isbells, Manila route, $22,000, for which bill authorizing issuance of bonds will shortly be presented to state legislature.

Chattanooga, Tenn.—Preliminary surveys being made by L. B. Bryan, co. engr., to construct and resurface with concrete, Lookout Mountain pike from Wauhatchie pike to top of mountain, requiring 29,000 sq. yd. paving and 26,000 lin. ft. natural stone curbing; estimated cost $53,000.

County sold on March 16, $730,000 road, bridge and school bonds.

Cleveland, Tenn.—Town intends paving portions of Inman, Ocoee, Church and numerous other streets, of which some will be paved with crushed stone; estimated cost, $25,000.

Ooltewah, Tenn.—Contracts will soon be awarded by county to imporve Cleveland-Chattanooga and other highways for which $80,000 bonds have been sold. J. L. Smith, engr., Pikeville, Tenn.

Maynardville, Tenn.—County intends issuing from $40,000 to $50.000 warrants for additional road improvements.

Brooksville, Ky.—Fiscal Court postponed letting advertised for April 3 until probably in May, for construction of roads, bridges and culvert pipe. Roland R. Pyne, co. constr. engr.

Hazard, Ky.—Reported Perry Co. will hold election April 5 to vote $150,000 bonds for proposed construction of roads; county's share of state aid amounts to $25,000. Address Co. Judge.

Hopkinsville, Ky.—Contracts will be awarded by Christian Co. this spring for 85 miles of macadam roads; estimated cost $175,000. Chas. Folsom, co. engr.

Paducah, Ky.—Contracts will be awarded probably in latter part of April to gravel 120 miles of roads at estimated cost of $200,000. Address Co. Clk.

Chillicothe, O.—Contracts will soon be awarded by State Highway Dept., Columbus, O., to pave 1 mile of road in Frankfort, estimated cost $30,000; and 1¼ miles in Kingston, estimated cost $35,000. Glenn Perry, co. surv.

Cleveland, O.—Brecksville Twp. voted on Mar. 20 to issue $50,000 bonds for road improvements. Address Co. Clk.

Cincinnati, O.—City Council approved estimates of Frank S. Krug, city engr., for proposed paving of portion of Erie Ave. with asphalt, $23,025, with bitulithic, $24,615; of Dixmyth Ave. with macadam, $12,215; of Hamilton Ave., with granite, $88,355; of Hetzell St., with concrete and construction of 6-in. water main in same, $14,144.

Wm. Boeh, co. surv., estimates cost to improve School Section road at $13,000; approved by Co. Comrs.

Columbus, O.—City Council considering paving of portions of Main ($76,000), 3rd ($53,000), 4th ($32,000) and Goodale ($18,000) Sts., and further widening of N. High St. ($75,000), for which approval to issue bonds for these improvements will be asked at November election. Geo. J. Karb, mayor.

Dayton, O.—City rejected all bids received to pave portions of Jefferson St. and Manhattan Ave.; new bids will be asked.

Lorain, O.—Street bonds for $70,000 will be sold Apr. 14 by Geo. N. Damon, city aud.

City intends paving Reid Ave. from 12th to 31st Sts., 34 ft. wide. C. M. Osborne, city engr.

Mansfield, O.—City Council (W. W. Carter, clk.) intends improving portions of 3rd, W. 1st and Benton Sts. and 5 others. Address Director Pub. Serv.

Portsmouth, O.—No bids were received by city Mar. 23 to grade, curb and pave portions of 10th, Jefferson, 4th and other streets; probably after engineer's estimates, which were too low, are revised, new bids will be asked. R. Calvert, dir. pub. serv.

St. Bernard, O.—Street improvement bonds for $70,000 for paving, grading and constructing storm sewers will be sold Apr. 12 by W. L. Taylor, co. aud.

Auburn, Ind.—Highway bonds for $13,500 will be sold April 3 by Samuel G. Stone, co. treas.

Anderson, Ind.—County Comrs. have granted petition to improve Main St. from 25th St. south to Adams Twp., which includes paving same and constructing tunnel under Big Four yard tracks. Address Clem Funk, viewer.

Indianapolis, Ind.—Estimated cost of proposed paving work contemplated by Bd. Pub. Wks., placed at $100,000 by B. J. T. Jeup, city engr., of which largest jobs are on 10th St., $38,765 and Watson road, $33,573.

South Bend, Ind.—Estimates of City Engr. F. J. Anderson for this year's public improvements placed at $94,304, of which largest are: paving portions of Francis St. ($32,690), Bway ($22,615) and Franklin St. ($12,555).

Election will be held in South Bend, Portage and Clay Twps. on April 5, to vote $75,000 bonds for proposed paving of Niles road with concrete, 30 ft. wide, graded on each side with gravel for 9 ft., from city limits north to state line, 4½ miles long. Address Ernest Beebe, viewer, Court House.

Terre Haute, Ind.—County Comrs. have been petitioned to gravel the Whitesell-Bell road in Fayette Twp. Thomas Ferguson, co. aud.

Marshall, Mich.—County rejected all bids opened March 19 for constructing 5.67 miles of pavement, 18 ft. wide, of cement and bituminous concrete on brick concrete base. Geo. R. Peet, chmn. road comrs.

Saginaw, Mich.—City intends to pave portion of State St., at estimated cost of $20,263. H. S. Gay, city clk.

Bloomington, Ill.—Plans completed by Gene Packard, engr., City Hall, to pave 16,159 sq. yd. with brick on 6-in. concrete base, and lay 1414 lin. ft. sandstone curb on portion of South Main St. Fred. Evans, city clk.

Hillsboro, Ill.—Contract will be awarded about July 1 by city to pave 10,000 sq. yd. with brick on 4-in. concrete (1:3:5) base and construct 10,000 lin. ft. 6-in. by 18-in. curb on Hamilton and Wood Sts.; cost $30,000. Warren Engr. Co., city engrs.

Moline, Ill.—Bd. Improv. approves proposed paving of portions of 16th and 17th Sts. with brick, at estimated cost of $33,000. Lyle Payton, city engr.

Peoria, Ill.—Bd. Co. Supervs. have called election for April 3 to vote $1,700,000 bonds for construction of hard-surfaced roads.

Rockford, Ill.—Bd. Local Impts. intends paving portions of nine streets with macadam at estimated cost of $76,750, two streets with brick, $36,000, and constructing sewers in two, $5,250.

Rushville, Ill. — Bd. Supervs. intends spending $15,587 for hard surfaced roads this year, of which $4,587 is state aid. Address Co. Supt. Highways Henderson.

Sterling, Ill.—County contemplates graveling 1.7 miles of 15-ft. highway in Hopkins, $12,987 and 2.6 miles of 10-ft. highway in Prophetstown and Portland, $13,222. V. N. Tagett, co. supt. highways.

Black River Falls, Wis.—A concrete road, 18 miles long, from here to Melrose, is planned. Address Co. Clk.

Burlington, Ia.—City intends paving portions of Division and 9th Sts. with brick block with pitch filler, and South Main St. with cement concrete. A. J. Cockrell, chmn. dept. streets and pub. impts.

Dubuque, Ia.—Contracts will be awarded in near future by Bd. Supervs. to construct 3¼ miles of brick or concrete road.

Minneapolis, Minn.—On March 14 Dan. C. Brown, city comptroller, sold $595,410 special street improv. bonds for the widening, opening and improving several streets.

St. Paul, Minn.—State Senate passed bill authorizing Ramsey and Washington Cos. (St. Paul and Stillwater, respective county seats) to issue $30,000 bonds to construct road around White Bear Lake.

Neodesha, Kan.—Contracts will be awarded, probably late in summer, by city to pave 20 blocks of streets. C. A. Case, city engr.

Topeka, Kan.—County Comrs. have been petitioned to pave 2 miles of West 12th St. from Washburn Ave. to Mt. Calvary cemetery, 18 ft. wide, with macadam on foundation of flat stones and finishing coat of asphalt, total thickness of paving from 6 to 8 in.

Bismarck, N. D.—State Legislature passed bill which has been signed by Governor appropriating $500,000 annually for construction of state system of trunk-line highways.

Wahpeton, N. D.—Contracts will be awarded in April by city to pave 35,000 sq. yd. with bitulithic.

Benton, Mo.—Election will probably be held in April by county to vote $950,000 bonds for proposed grading and paving with flint gravel and clay binder of 190 miles of roads; main roads will be 14 ft. wide, others 13 ft. wide.

Kansas City, Mo.—Plans will be completed about April 1 by Bd. Pub. Wks. for improvement of Beardsley St. south of 12th St., requiring excavation and fill, construction of retaining walls and a side-hill viaduct, about 640 ft. long; total estimated cost $100,000. Victor H. Cochrane, bridge engr.

Springfield, Mo.—City Council has been petitioned to pave 25,000 sq. yd. on various streets with asphaltic concrete and intend constructing 5 miles of stone or concrete curb and gutters and will probably construct 7 to 10 miles of sewers this coming winter. O. D. Chrisman, city engr.

Russelville, Ark.—City Council intends paving 1 mile on Main St. in recently created paving dist. No. 1, at estimated cost of $100,000. W. J. White, comr.

Texarkana, Ark.—Miller Co. intends constructing road from here along Texas state line to connect with road in Bowie Co., Tex.; estimated cost $15,000. In addition county will construct 65 miles more of roads for which bonds have been sold.

Abilene, Tex.—Petition being circulated in Taylor Co. to bond county for $100,000 for proposed construction of a road extending south from Abilene through Iberis, Tuscola and Guion to Bradshaw with loop through Buffalo Gap and road extending west from Tye through Merkel and Trent to Nolan Co. line. E. M. Overshiner, co. judge.

Boston, Tex.—Comrs. Court, Bowie Co., appropriated $15,000 to construct a road 10 miles long, from Texarkana, Ark., to Red River, near Index.

Houston, Tex.—See "Waterworks and Sewerage System."

Weatherford, Tex.—Election will be held on April 19, in newly created road precinct, which extends from 6 to 8 miles from courthouse, to vote $250,000 bonds for proposed construction of 10 roads out from city.

Muskogee, Okla.—County will hold election April 10 to vote $850,000 bonds for proposed construction of roads and $150,000 bonds to construct 3 bridges.

Pauls Valley, Okla.—County contemplates holding election to vote $250,000 bonds for proposed construction of roads and bridges.

Norman, Okla.—Little River and Norman Twps. considering holding election to vote $30,000 bonds for proposed road work, for which estimates are being prepared by James I. Tucker, engr., State Highway Dept., Oklahoma City.

Pryor, Okla.—Chouteau Twp. will hold election April 10 to vote $20,000 for proposed road improvements. B. Howard, co. clk.

Tulsa, Okla.—At recent special elections four townships voted total of $98,000 bonds for highway improvements. Address E. Bee Guthrey, highway comr., care Tulsa Chamber of Commerce.

Wellston, Okla.—Wellston Twp. will hold election to vote $12,000 bonds for proposed road work.

Bellingham, Wash.—City intends paving with a permanent pavement portions of Lake St., 32 ft., 24 ft. and 16 ft. wide and constructing concrete curb and gutters on same; estimated cost $50,000. W. H. North, city engr.

Everett, Wash.—Snohomish Co. intends constructing 57 miles of highways, this year, at estimated cost of $800,000. W. C. Bickford, co. engr.

Goldendale, Wash.—Town intends grading, draining, paving with water-bound macadam, 28 ft. wide, and constructing concrete curbs on portion of D St. D. Gunning, town clk.

Chehalis, Wash.—County Comrs. intend hard surfacing 1 mile of Bucoda road from Centralia North and 2 miles of Pacific high way from Forest, each 16 ft. wide; also 1 mile of concrete pavement, 8 ft. wide on Klaber road. J. D. Neville, co, engr.

Pomeroy, Wash.—City intends grading, guttering, draining and paving with any standard hard surfacing material portions of 2d, 11th and Arlington Sts. Harry St. George, city clk.

Spokane, Wash.—Allen R. Scott, co. engr., expects to have specifications completed by April 1 that bids may be asked on 26½ miles of paved highways on 8 different sections of short road; estimated cost $200,000.

Stevenson, Wash.—Skamania Co. received total of $67,000 from state and federal government to complete grading of North Bank Highway, surveyed along banks of Columbia River.

Vancouver, Wash.—County Comrs. considering improvement of the Fourth Plain road of the river road to Camas and have under advisement tentative plan to construct 104 miles of concrete roads at total cost of $1,300,000—about $12,000 per mile.

Washington. — State Legislature passed highway appropriation bill making $5,500,000 available for construction work on April 1; state aid bill carried $1,812,000, and provides for the construction of the Olympia, Pacific, Sunset and 9 other highways; counties to receive largest amounts of state aid being King $900,000, Pierce $318,000, Grays Harbor $263,000, Lewis $222,000.

Astoria, Ore.—City intends paving Exchange and Duane Sts. and Lexington Ave., at estimated cost of $18,000. Y. D. Guillime, city aud.

Hubbard, Ore.—Bids will shortly be asked by city (J. L. Calvert, city recorder) to pave with concrete, asphalt concrete or bitulithic streets in business and residence dists.

John Day, Ore.—County will hold special election in June to vote $140,000 bonds for proposed construction of the John Day highway.

Arcata, Cal.—Plans being prepared by W. F. Hunter, city engr., to pave several streets.

Chino, Cal.—Bd. Supervs., San Bernardino, rejected all bids received for paving 183,000 sq. ft. on Central Ave. here with concrete; work will be done by day labor.

Chula Vista, Cal.—Election will be held to vote $83,500 bonds for paving streets and jointly construct highway to National City.

Modesto, Cal.—See "Waterworks and Sewerage System."

Sacramento, Cal.—Bd. Superv. rejected all bids for furnishing 175,000 bbl. cement for county highways and will probably purchase this material in the open market. Bids for sand were also rejected. R. M. Morton, highway engr.

San Diego, Cal.—Federal Forest Bureau, Federal Bldg., Los Angeles, intends constructing a $25,000 highway from Imperial Valley into Cleveland National Forest Reserve and a $5,000 water system to serve proposed resort.

George Cromwell, city engr., estimates cost of constructing 16 miles of 4-in. concrete pavement, 20 ft. wide, in city limits, via Torrey Pines grade, at $211,790, and via Ocean Beach and Old Town at $217,456, exclusive of permanent bridges.

Santa Barbara, Cal.—City Council will probably vote to construct concrete pavement with Warrenite, Topeka or similar surface on 17 blocks of Bath St. A. C. Holmberg, city clk.

San Luis Obispo, Cal.—Surveys being made by W. C. Howe, div. engr., State Highway Comn., Sacramento, for proposed highway over mountains from here to Bakersfield, about 90 miles.

Visalia, Cal.—Highway bonds for $2,200,000 will be sold April 6 by Geo. R. Prestige, co. clk.

Yreka, Cal.—County and federal government have each appropriated $10,000 to construct extension to Somes Bar to Forks of Salmon road. Wm. B. Rider, forest superv.

Clifton, Ariz.—Contracts will soon be awarded by city for improving various streets and constructing bridges and retaining walls for which $166,000 bonds have been sold.

Florence, Ariz.—County will hold election April 14 to vote $150,000 bonds for proposed road construction work. W. W. Lane, co. engr.

Globe, Ariz.—County intends completing road 25 miles long from here to Winkelman, for which estimates will shortly be secured by Roy G. Thomas, co. engr., and contemplates improving Hayden-Winkelman road, 3 miles long, by constructing a 15-ft. concrete rib with 6-ft. conglomerate shoulder, at estimated cost of $20,000 per mile.

Brigham City, Utah.—City intends constructing this summer 25 blocks of 5-ft. cement walks in the residence districts of the four wards. H. C. Carver, city, engr.

Ogden, Utah.—Plans being prepared by J. M. Tracey, city engr., to pave two miles of streets with asphalt.

Provo, Utah.—County will hold election April 17 to vote $750,000 bonds for construction of highway system comprising 43 or more miles of concrete roads.

Kellogg, Idaho.—Reported City Council intends shortly to award contracts for paving Main St. for 1 mile.

Lewiston, Idaho.—City intends grading, constructing concrete curbs, sidewalks, drains and storm sewers and parking of streets and avenues in recently created improvement dist. No. 11; estimated cost $19,650. C. F. Leland, city clk.

Moncton, N. B.—Contracts will soon be awarded by city to pave various streets with bitulithic, concrete and macadam; estimated cost $125,000.

Guelph, Ont.—City has under consideration appropriation of $42,875 for road repair work. F. McArthur, city engr.

BIDS DESIRED

Boston, Mass.—Until Apr. 3 by State Highway Comn., State House, for 7900 ft. of asphalt at Athol, 8000 ft. of concrete at West Dartmouth, 7700 ft. of tar at Easthampton, and 6000 ft. asphalt at Tewksbury.

Greenwich, Conn.—Until Apr. 11 by Town Highway Comn. (L. V. Lockwood, chm.) for 17,000 sq. yd. of pavement; advertised in this issue.

Jersey City, N. J.—Until April 3, by Hudson Co. Park Comn. (Walter G. Muirheid, secy.), 1 Exchange Pl., for furnishing and laying asphalt block pavement at West Side Park here.

Brooklyn, N. Y.—Until April 4, by L. H. Pounds, boro. pres., for regulating and repaving with grade 1 granite pavement on 6-in. concrete foundation, portions of Degraw St., Vanderbilt Ave., Washington and Waverly Aves. and other streets; also for paving with asphalt pavement portions of Fulton St. and Greene Ave.; total security $36,200; also for furnishing and delivering 3300 cu. yd. 1½-in. broken trap rock screenings and 2000 cu. yd. sand; security 30 per cent for each.

Until Apr. 5, by Park Bd., Municipal Bldg., New York City, for improving portion of Eastern Parkway extension, by regulating, grading and constructing asphaltic concrete pavement upon concrete foundation, together with curbing, etc., security $40,000.

New York, N. Y.—Until Apr. 5 by Marcus M. Marks, boro. pres., for regulating and paving with sheet asphalt on stone block foundation, and with granite block pavement on concrete foundation, and some with sheet asphalt on concrete foundation, portions of Broadway, 31st, 125th and other streets; security, $41,700.

Until Apr. 9 by Marcus M. Marks, boro. pres., for 1400 tons asphaltic paving cement, 7000 cu. yd. paving sand and 3000 cu. yd paving gravel; security 30 per cent for each item.

St. George, S. I., N. Y.—Until April 3, by Calvin D. Van Name, boro. pres., for furnishing and delivering 240,000 gal. bituminous material, 200,000 gal. asphaltic road oil, 100,000 gal. liquid asphalt; security 30 per cent for each item.

Bayonne, N. J.—Until about April 17, by city, for constructing 90,000 sq. yd. sheet asphalt and granite block paving on concrete foundation, together with 25,000 lin. ft. bluestone and concrete curb, etc., on portions of Avenue C, W. 6th, E. 22nd Sts., and other streets; cost about $250,000. Walter L. Clarkson, city engr.

Trenton, N. J.—Until Apr. 11 by City Comn. (Leon D. Hirsch, city clk.) for repaving five streets with asphalt and the treatment of one with asphaltic oil.

Bellevue, Pa.—Until Apr. 3, by James M. Sumeral, boro. clk., for 3075 cu. yd. grading; 3442 lin. ft. curbing and 5490 sq. yd. of paving; McBride Eng. & Surveying Co., Ltd., 331 Fourth Ave., Pittsburgh, engrs.

Philadelphia, Pa—Until Apr. 5, by Bureau Highway, Dept. Pub. Wks., for grading various streets and for paving and repaving with asphalt, granite block and wood block; also for furnishing and delivering and applying asphaltic road oil.

South Bethlehem, Pa.—Until Apr. 23 by Boro. (Robert Pfeifle, chmn. st. committee) for 75,000 sq. yd. paving; advertised in this issue.

Washington, D. C.—Until April 5 by Secy. Bd. Comrs., District Bldg., for grading and paving alleys with asphalt block, vitr. block, etc., advertised in this issue.

Yadkinville, N. C.—Until April 3, by Bd. Road Comrs. (A. P. Woodruff, chmn.), for constructing permanent highway from Donnaha via Boonville to sand-clay road near Jonesville, and from Crutchfield via Boonville and Yadkinville to Courtney.

Charleston, S. C.—Until Apr. 3, by Street Dept., for furnishing bluestone, terra cotta pipe, brick, lime, Portland Cement, etc., for the year 1917. J. H. Dingle, city engr.

Marietta, Ga.—Reported until April 5, by O. B. Waddell, city clk., for constructing 19,000 sq. yd. pavement, 6000 sq. yd. sidewalks, 6500 lin. ft. concrete curbing and complete storm drainage system; paving to be of concrete, asphalt, vitr. brick, etc. Knox T. Thomas, Forsyth Bldg., Atlanta, engr.

Tampa, Fla. — Reported desired until April 9, by Co. Comrs. (W. P. Culbreath, clk.), for hard-surfacing 54 miles of roads.

Lake Charles, La.—Reported desired until Apr. 3 by Police Jury (H. G. Chalkle, pres.). Calcasieu Parish, for constructing 15 miles of gravel and shell roads 12 to 16 ft. wide; cost about $60,000.

Brookhaven, Miss.—Until Apr. 4 by Dist. Road Comrs. for 30 mi. of gravel roads; work includes about 130,000 cu. yd. excavation, 2700 ft. pipe culverts of clay or concrete, together with box culverts, etc. Walter G. Kirpatrick, 704 Farley Bldg., Birmingham, Ala., engr.

Hattiesburg, Miss.—Reported desired until May 7, by J. K. Denham, co. road comr., for constructing gravel road; $130,000 available. Frank T. Myers, engr.

Meridian, Miss.—Reported desired until April 4, by Good Roads Comn. of Road Dist. No. 1 (J. O. Weiss, secy.), for reshaping, spreading new materials, sprinkling, etc., Causeyville Road, in all about 45,000 sq. yd.; also for unloading about 4000 tons chert or novaculite. J. T. Pinkston, engr.

Middleton, Tenn.—Until Apr. 6 by R. P. Parker, engr., Box 425, Jackson, Tenn., for grading 20 mi. of Middleton to Jackson extension, into Jackson; cost about $175,000.

Clifton, Ky.—Until Apr. 4, by Bd. Trustees (Clifford B. Strohm, town clk), for reconstructing portions of 16th St. and Main Ave., certified check for $1,000 to accompany bid.

Pikeville, Ky.—Reported desired until April 25, by Fiscal Court, Pike Co., for constructing 5 miles of roadway near here; address Co. Judge.

Celina, O.—Reported desired until Apr. 16, for constructing 7 mi. gravel or macadam roads; address Noah Hinton, engr.

Columbus, O.—Reported desired until April 13, by Geo. A. Borden, dir. pub. serv., for grading, draining and paving with asphalt or brick, and laying water surface pipe on portions of 5th, Pace and Welch Aves. and Lafayette St.

Toledo, O.—Until Apr. 3, by Co. Comrs. (Gabe Cooper, aud.), for repairing a total of about 62.5 mi. of roads in various twps., some of which are Dorr St., Stone road No. 24 in Springfield and Spencer Twps., Neapolis-Waterville Stone road in Providence and Waterville Twps., Laskey Stone Road No. 10 in Washington Twp., etc.

Woodsfield, O.—Reported desired until Apr. 16, for constructing brick paving, curbing and sewers; G. P. Dorr, village clk.

Indiana—By the Co. Comrs. for constructing following roads:

Apr. 7. Mt. Vernon, Ind., for 11,088 ft. gravel road in Harrison Twp.; Joseph R. Haines, co. aud.

Apr. 12. Decatur, Ind., for crushed stone road in Washington Twp., and macadamized road on Adams-Allen co. line; J. Mosure co. aud.

Apr. 14. Jasper, Ind., for road in Patoka Twp.; Jacob H. Seng, co. aud.

Terre Haute, Ind.—Until April 9, by Bd. Pub. Wks. (Fred Rush, secy.), for constructing pavements in S. 3rd St., pavement to be on 5-in. concrete foundation of brick, wooden blocks, sphalt or asphaltic concrete, in all about 5000 ft.; cost brick $111,000, wood block $140,000, asphaltic concrete $112,000.

Ann Arbor, Mich.—Until Apr. 14, by Bd. Dist. Road Comrs. for constructing state reward gravel roads; John J. Cox, engr., advertised in this issue.

Centerville, Mich.—Until April 5, by Co. Clk., for constructing 4½ miles of State Reward Trunk Line Road, east of Sturgis, and 2 miles of road south of Sturgis; to consist of a 16-ft. travel track made of gravel. W. R. Adamson, chmn. co. rd. comn., Leonidas.

Macomb, Ill.—Until Apr. 7 by Bd. Superv. gor 200,00 gal. road oil; W. M. Bonham Co., supt. highways; advertised in this issue.

Mt. Carroll, Ill.—Until about May 1 by D. Wolford, city clk., for 6520 sq. yd. of brick paving on 6-in. concrete foundation, asphalt filler, together with 1030 ft. combined concrete curb and gutters on portions of Market and Clay Sts., cost about $18,000. S. C. Campbell, co. supt. highways. C. S. Hepner, Freeport, Ill., engr.

Emmetsburg, Ia.—Until Apr. 4 by Co. Supervs. for graveling 30 miles of road, involving moving about 122,000 cu. yd. of earth. F. R. Martin, co. engr.

Dubuque, Ia.—Reported desired until Apr. 5 for paving portions of Pine St.; work includes about 2000 sq. yd. macadam, 1932 cu. yd. earth cutting, etc.; also for laying 1610 ft. of 8 in. tile pipe, together with manholes, etc. J. J. Shea, city recorder.

Griswold, Ia.—Reported desired until Apr. 6, for 26,000 sq. yd. of concrete pavement; address City Clk.

Morris, Minn.—Until Apr. 21 by C. R. Wollthan, co. aud., for Job No. 7, State Road No. 2, in Sec. 2 and 11, Twp. 124, Range 42, length 1.23 mi., about 3682 cu. yd. excavation, 1600 lin. ft. turnpiking; also for Jobs Nos. 4, 6, 7, 9 and 1702 in various twps., in all about 13 mi.

Redwood Falls, Minn.—Until Apr. 10 by L. P. Larson, co. aud., for grading State Road No. 1 and graveling State Rural Highwy No. 50, and portions of Nos. 9 and 93; work includes about 46,000 cu. yd. grading and 750 lin. ft. sectional concrete culverts on 7 miles of first mentioned road; cost about $10,450; estimated cost of graveling on other roads about $7,680; 19 miles additional to be let later.

St. Cloud, Minn.—Until Apr. 3 for 13,300 sq. yd. pavement on concrete base, together with 1000 ft. cement curb on 5th Ave. S., and 4th Ave N. R. E. Bonowan, city engr.; cost about $32,000.

St. Louis, Mo.—Reported desired until April 6, by Bd. Pub. Serv. (E. R. Kinsey, pres.), City Hall, for paving portions of Minnesota, Sigel, Kennerly, Plover Aves., Gasconade and many other streets with bitulithic, asphalt and macadam; total cost about $454,150.

Fairbury, Neb.—Until about Apr. 15 for paving streets in business section. R. A. Davis, city clk.

Eureka Springs, Ark.—Until Apr. 4 (new date, former bids rejected) by Comrs. Road Impr. Dist. No. 1, for constructing road from here to Benton Co.; work includes about 100,000 cu. yd. grading, 5 miles graveling, 2000 lin. ft. culvert pipe, 500 ft. steel bridge over White River, 10,000 ft. of 4 and 6-in. drain, tile, etc. R. D. Alexander, engr., Eureka Springs.

Tacoma, Wash.—Until Apr. 12 by Thos. N. Norris, co. aud., for clearing, grubbing, grading, and repairing, etc., permanent highway No. 8, distance of 1.97 miles with brick, on 4-in. concrete base, bitulithic, Warrenite, etc. D. H. White, co. engr.

Beaumont, Cal.—Until Apr. 4 (extension of time) by Bd. Supervs. (A. B. Pilch, clk.) for grading, graveling and oiling 4½ miles, grading and brushing 20¼ miles, and clearing and grading 6½ miles of highways in Coral Reef Road Dist.

Eureka, Cal.—Until Apr. 10 by Fred M. Kay, co. clk., for constructing 4 miles of Lord-Ellis Road.

Lancaster, Cal.—Until Apr. 9 by Bd. Superv. (A. M. McPherrin, clk.) for grading and constructing disintegrated granite pavement on 1.19 miles of road about 6 miles from here, involving about 3250 cu. yd. excavation, 6300 ft. shaping roadbed, etc., cost about $10,000.

Riverside, Cal.—Reported desired until April 4 (new date), by Bd. Supervs. (A. B. Pilch, co. clk.), for grading and surfacing with gravel and oiling about 4½ miles of roadway and clearing and grading about 6½ miles and brushing 20¼ miles of Coral Reef road.

San Diego, Cal.—Until Apr. 10, by Major G. B. Pillsbury, U. S. engr., 730 Central Bldg., Los Angeles, for grading 2 roads at Ft. Rosencrans, 3560 ft. and 3700 ft. in length and involving about 16,400 cu. yd. excavation.

Santa Barbara, Cal.—Until Apr. 5 by A. Christine Hall, city clk., for grading and constructing 4-in. concrete pavement with 2-in. asphalt wearing surface, concrete curbs and gutters, 5 manholes, 13 catchbasins, 6-in. vitr. pipe sewers, etc., on portions of Canon Pedido St.; also for grading and constructing concrete gutters, cement walks, etc., in Garden, Santa Barbara, Anacapa and other streets.

Jerome, Ariz.—Reported desired until Apr. 6, by Fred Whitaker, town clk., for grading portions of Main St. and Hull Ave.

PRICES AND LETTINGS

★Indicates award of contract.

★Boston, Mass.—Contract awarded by city to Central Constr. Co., at $39,200 ($1.37 per sq. yd. for asphalt), for patch pavement work.

Albany, N. Y.—Following are bids opened by State Highway Comn., 55 Lancaster St., for furnishing and delivering bituminous materials, on March 19: Binder A, Atlantic Refining Co., 50 Broad St., New York City, 44,089 ($0.093 gal. in bbl., car lots; $0.10 per gal. in bbl. less than car lots); Standard Oil Co., 26 Bway., New York City, $45,952 (0.097; $0.104); Warner-Quinlan Asphalt Co., Syracuse, N. Y. ($0.0978; $0.1053); Barber Asphalt Co., 233 Bway., New York City, $69,107 ($0.146; $0.156); L. C. O. material, Atlantic Refining Co., $12,084 ($0.663 per gal. in tank-car lots; $0.934 per gal. in bbl., car lots; $0.103 per gal. in bbl., less car lots); Standard Oil Co., $12,200 ($0.0665; $0.096; $0.107); hot application and binder. The Barrett Co., 17 Battery Pl., New York City, only bidder, $5,536 ($0.09 per gal. in tank-car lots; $0.117 per gal. in bbl., car lots; $0.124 per gal. in bbl., less car lots; $0.12 per gal. in bbl., car lots, binder; $0.125 per gal., in bbls., less car lots, binder), and for cold application, $31,347 ($0.077 per gal. in tank-car lots); cold patch—asphaltic emulsion on divisions 1, 2 and 4; Atlantic Refining Co., $59,735 ($0.1319 per gal. in bbl., car lots; $0.1398 per gal. in bbl., less car lots); Headley Good Roads Co., 301 S. 30th St., Philadelphia, Pa., $62,891 ($0.138; $0.1502); The Capitol City Supply & Contg. Cor., $63,735 ($0.14; $0.1517).

March 20.—L. H. O. material "A," Atlantic Refining Co., $37,852 (in. tank cars, $0.0615; in bbl., car lots, $0.092; in bbl. less car lots, $0.10); Standard Oil Co., $39,120 ($0.0658; $0.093; $0.104); Barber Asphalt Co., $46,274 ($0.08; $0.11; $0.12); cold application, The Barrett Co., $38,682 (in bbl., car lots, $0.103; in bbl., less car lots, $0.109); United Gas & Improvement Co., Broad and Arch Sts., Philadelphia, Pa., $39,349 ($0.1054; $0.1096); cold patch, asphaltic emulsion on divisions Nos. 3, 5, 6, 7, 8 and 9, Atlantic Refining Co., $51,173 (bbl., car lots, $0.1323; bbl., less car lots, $0.14); Capitol City Supply & Contg. Cor., $54,336 ($0.1392; $0.15); Headley Good Roads Co., $54,489 ($0.1398; $0.1502).

★Brooklyn, N. Y.—Contracts awarded by Pres. Boro. Brooklyn for paving work for which bids were opened Mar. 21, as follows: To M. J. O'Hara, 557 3d St., Brooklyn, at $14,235, to pave Myrtle Ave. and at $18,015 to pave 9th St. with granite blocks on 6-in. concrete base; to Brooklyn Alcatraz Asphalt Co., 407 Hamilton Ave., Brooklyn, at $24,194, to pave Neptune Ave. with asphalt on 6-in. concrete base; to Uvalde Asphalt Paving Co., 1 B'way, New York City, at $15,885, to pave Humboldt St. with asphalt on present concrete base.

★Elmira, N. Y.—Contracts awarded by city (bids opened March 15), as follows: Bitulithic pavement with concrete curbs, 10,400 sq. yd. on W. Washington Ave. and 6800 sq. yd. on S. Walnut St. to Warren Bros. Co., Boston, Mass.; brick pavement with concrete curbs, 3160 sq. yd. on Erie and 2200 sq. yd. on W. La France Sts., to Holleran Bros., Elmira, N. Y. Louis C. Andrews, city clk.

Lynchburg, Va.—Following are unit bids opened by Wm. J. Lee, div. engr., State Highway Comn., Lynchburg, for constructing, with bituminous macadam, 10.9 miles (6 different contracts totaling $200,000), in Brookville dist., and 31.25 miles (5 different contracts totaling $40,000) of grey soil construction in Seneca dist.; both dists. in Campbell Co.: Bidders, Brookville dist.: (a) McKinney Bros., Inc.; (b) S. B. Bennington; (c) Craighill & Showalter; (d) Virginia Constr. Co. (J. E. Wood); contrs. all of Lynchburg, Va. Bidders Seneca dist.: (e) S. E. Lee Constr. Co., Emporia, Va.; (f) T. W. Chandler, Virgilina, Va.; (g) S. P. Clay, 601 N. 31st St., Richmond, Va.; (h) Hailey & Boatwright, Ontario, Va.; (k) J. R. Ford & Co., Inc., Lynchburg, Va.; (m) Luke J. Chandler & Co., Virgilina, Va.

Brookville Dist.	(a)	(b)	(c)	(d)
29,480 cu. yds unclassified excavation	$0.50	$0.50	$0.40	$0.45
500 lin. ft. 12-in. vitrified clay pipe	0.85	0.80	0.48	1.00
160 lin. ft. 15-in. vitrified clay pipe	1.10	1.00	0.635	1.25
40 lin. ft. 18-in. vitrified clay pipe	1.60	1.20	0.88	1.75
20 lin. ft. 24-in. vitrified clay pipe	2.25	3.25	...	3.25
145 cu. yd. class "A" concrete masonry	12.00	...	...	12.00
386 cu. yd. class "B" concrete masonry	8.50	8.50	7.00	9.50
1,350 lb. reinforced steel	0.08	...	...	0.07
14,858 sq. yd. 6-in. bituminous macadam	1.28	1.34	1.18	1.13
25,298 sq. yd. 2-in. bituminous macadam (resurfacing)	0.90	0.85	0.83	0.74
Cu. yd., additional broken stone on road, including rolling	3.00	3.00	3.11	4.50
Cu. yd. screenings on road, including sprinkling and rolling	2.50	2.50	1.60	4.50

Seneca Dist.	(e)	(f)	(g)	(h)	(k)	(m)
40,033 cu. yd. unclassified excavation	$0.38	$0.41	$0.36	$0.43	$0.45	$0.38
1,038 lin. ft. 12-in. vitrified clay pipe	0.90	0.68	0.80	0.80	1.00	0.80
586 lin. ft. 15-in. vitrified clay pipe	1.05	0.76	1.15	1.25	1.25	1.00
726 lin. ft. 18-in. vitrified clay pipe	1.25	1.00	1.80	2.00	1.75	1.20
468 lin. ft. 24-in. vitrified clay pipe	1.95	2.50	2.50	2.50	2.50	2.25
25 cu. yd. class "A" concrete masonry	12.00	11.50	10.00	14.00	15.00	11.00
162 cu. yd. class "B" concrete masonry	9.00	9.00	9.00	12.00	10.00	9.00
1,800 lb. reinforced steel	0.10	0.09	0.08	0.10	0.07	0.10
291 acres, clearing and grubbing	100.00	100.00	120.00	150.00	60.00	95.00
16 lin. ft. 30-in. vitrified clay pipe	....	4.00	4.00	3.25	4.00	2.75
56,988 cu. yd. soil in finished road	0.39	0.375	0.395	0.42	0.43	0.41
Hrs., road machine, including team and drivers	1.60	1.40	1.50	1.80	1.20	1.50

★**Jersey City, N. J.**—Contract awarded on Mar. 24 by Pennsylvania RR. (Alex. C. Shand, ch. engr., Philadelphia, Pa.) to The Hastings Pavement Co., 25 Broad St., New York City, to pave about 18,150 sq. yd. on Greenville piers, with asphalt blocks.

★**Salem, N. J.**—Following are bids opened by Bd. Freeholders to construct 2.86 miles of Malaga-Pennsgrove road: Clouting & Fox, Ocean City, N. J., $85,432 (awarded contract); J. F. Burke Co., Plainfield, N. J., $108,032; Sutton & Corson, Ocean City, N. J., $108,977; Paul J. Snyder Co. Philadelphia, Pa., 110,611; Kelley Constr. Co., Camden, N. J., $112,174.

★**Plainsville, Pa.**—Contract awarded by county (bids opened Mar. 19) to B. G. Coon Constr. Co., Luzerne, Pa., at $64,446, to pave about 19,700 sq. yd. on Pittston road from here to Port Bowkley with asphalt block.

★**Ebensburg, Pa.**—Contract awarded by county (bids opened Mar. 22) to Patton Fire Clay Mfg. Co., Patton, Pa., at $21.50 per M., for 660,000 brick required for reconstruction of 1 mile and 4,862 ft. of Cresson pike in Munster Twp. Herman T. Jones, controller.

★**Philadelphia, Pa.**—Contract awarded by Chief, Bureau City Property (bids opened Mar. 14) to H. F. Markland, 612 Lincoln Bldg., Philadelphia, to lay or repair Neuchatel or asphalt pavement.

★**Philadelphia, Pa.**—Following contracts awarded by Bureau of Highways for repairing bituminous pavements to P. J. Snyder, Bailey Bldg., at $32,725; for repairing various curbs and footways, to J. J. McHugh, 1430 S. Penn Sq., at $17,987; vitr. block pavement on various streets, to Ryan & Reilly, at $11,697; wood block pavement, to Ryan & Reilly; Barber Asphalt Co., Land Title Bldg., and D. J. Lynch, 4029 Cambridge St., at $41,835. Bidders all of Philadelphia.

★**Scranton, Pa.**—Lowest bid received by Dept. Pub. Wks. for 600 tons asphaltic cement was from Atlantic Refining Co., Poplar St., here, at $19.67 per ton. John Hughes, deputy city controller.

★**West Newton, Pa.**—Contract awarded by Bd. Supervs., South Huntington Twp., to Christ Goehring, and A. N. Budd, at $12,000, to pave 1 mile of road from Mt. Pleasant pike at Pore farm running in direction of Smithton.

★**Baltimore, Md.**—Contracts awarded by Bd. Awards to American Paving Co., Montebello Ave. and Jenkins Lane, at $1.81 per sq. yd. and to Baltimore Asphalt Block & Tile Co., Monroe and Lorman Sts., at $1.78 per sq. yd., providing for improvement of 16 streets in northeastern and 15 streets in northwestern annexes.

★**Centerville, Md.**—Contract awarded by Co. Comrs. (J. R. Roe, clk.) to Dodson & Bailey, St. Michaels, Md. (subject to approval of State Roads Comn., Baltimore) for the construction of Queenstown state aid road.

★**Canton, N. C.**—Contract awarded by city to Asheville Dray, Fuel & Constr. Co., Asheville, N. C., to pave with concrete 20,000 sq. yd. and construct concrete curbs.

★**Charleston, S. C.**—Contract awarded by city to Bryan & Co., Jacksonville, Fla., at $41,585, to construct road around South Battery, connecting with boulevard.

★**Palatka, Fla.**—Contract awarded by city (bids opened Mar. 20) to Alabama Paving Co., Birmingham, Ala., at $1.53 per sq. yd., to pave 6000 sq. yds. of streets with vitrified brick; other bidder, Georgia Engr. Co., Augusta, Ga., at $1.545 per sq. yd. S. C. Stallings, city engr.

★**Florence, Ala.**—Contract awarded by Co. Comrs. to Stanley Springer Constr. Co., La Fayette, Ala., at $0.225 per cu. yd., for dirt and $0.48 for gravel for finishing 2 miles of work on Jackson highway between here and St. Florian, and to R. C. Smith, Oakland, Ala., for surfacing and completing stretch of Waterloo road between Oakland and Rhodesville.

★**Iuka, Miss.**—Contract awarded by E. F. Parnell, secy. co. comrs. (bids opened Mar. 8) to H. D. Harvey & Co. Tupelo, Miss., to construct 6 miles of gravel road in 1st dist.

Louisville, Ky.—Following bids, opened March 19 by city for furnishing 400,000 gal. road oil: Standard Oil Co. of Kentucky, $0.055 per gal.; Tyler & Breslin, $0.0515; Barrett Co. (tar), $0.075; American Tar Products Co. (tar), $0.07. All contrs. in Louisville.

★**Russellville, Ky.**—Reported contract awarded to F. C. Garrell, to construct 7 miles of road between here and Lewisburg, at $35,000; work consists largely of dirt and stone, with some heavy fills; sublet 2 miles to The Geo. H. Byers Co.

★**Cincinnati, O.**—Contract awarded by City Bd. Control to Barber Asphalt Paving Co., 1307 Union Trust Bldg., at $22 per ton, for 40 tons of Trinidad asphalt; to Tarvia Constr. Co., 17 East 6th St., at $0.10 per gal., for 30,000 gal. coal tar bituminous road surfacing material, at $0.09 per gal., for 40,000 gal. coal tar bituminous road binder (penetration method), and at $0.09 per gal. for 30,000 gal. coal tar bituminous road binder (mixing method); to Queen City Crushed Stone & Sand Co., Remington, O., at $0.95 per ton, for 3000 tons crushed boulder chips, and at $0.75 per ton for 1200 tons sand.

Following are bids opened by Pub. Service Dir. Hornberger for improving intersection of Delta and Linwood Aves.: Henkel & Sullivan, 710 Mercantile Library Bldg. (a) asphalt, $31,104, (b) bitulithic, $33,354. Kirchner Constr. Co., 221 W. 9th St. (a) $34,164, (b) $35,289. Scully Bros., 242 Loraine Ave. (a) $35,589, (b) $37,464; engr's estimates (a) $29,164, (b) $31,414.

★**Cleveland, O.**—Contract awarded by Co. Comrs. on Mar. 22 to Cleveland Trinidad Paving Co., 3409 Trumball St., at $114,566, to pave with granite block new high level bridge.

★**Defiance, O.**—Contract awarded by Bd. Control, March 14, to Johnson & Ritz, at $61,256, to pave Jackson, 3d, Juliet and 1st Sts. with asphalt block and brick.

Ironton, O.—Bids received by city for 9,000-ft. sidewalk work in dist. No. 14, total cost about $10,000, were: Mahl. Bros., gravel concrete, $0.11; slag concrete, $10.75; run of bank concrete, $10.05; Fred B. Davies, gravel concrete, $12.04; slag concrete, $11.09.

Goshen, Ind.—Following are bids opened Mar. 13 by Co. Comrs. to pave with concrete—(a Lusher Ave. with gravel, (b) Paulus Road, (c) Shaum Road, (d) Fergison Road, all in Concord Twp.: Amandus M. Smith on (a) $43,990, on (d) $25,585; Ackerman & Co., La Porte, Ind., on (b) $24,675, on (c) $25,900, on (d) $23,165; Albert Reith on (b) $25,674, on (c) $25,350, on (d) $23,-743; Northern Constr. Co., Elkhart, Ind., on (b) $25,595, on (d) $25,475; W. W. Hatch, on (b) $25,195, on (c) $26,290, on (d) $25,498.

★**Berwyn Ill.**—Contract awarded by city (bids opened Mar. 20) to H. G. Goelitz & Co., Oak Park, Ill., to construct concrete curb and gutters and pave portion of Clarence Ave. with asphaltic concrete; assessment about $21,497.

★**Galesburg, Ill.**—Contract awarded by Bd. Local Impts. to J. B. McAuley, local, at $13,000 to pave Matthew and South Sts.

★**Peoria, Ill.**—Contract awarded by Bd. Local Impts. to John McAlister, local, at $19,415, to pave 3rd Ave.

★**Pontiac, Ill.**—Contract awarded by city to R. Lobb & Sons, at $15,993, to pave East 2d and Moulton Sts.

★**Streator, Ill.**—Contract awarded by Bd. Local Impts. to Jensen & Schaeffer, Pekin, Ill., at $41,913, to pave Bronson St. and River Ave.; other bidders, Smith & Scwartz, $42,015, and Public Serv. Constr. Co., $42,-261, both of Streator.

Appleton, Wis.—Following are bids opened Mar. 14 by city to pave portions of Sherman Place, Maple, Grove and other streets: Garvey & Weyenberg, Appleton, $1.96 per sq. yd. for concrete; Grennke Bros., Appleton, at $2.01 per sq. yd. for concrete; F. P. Caughlin Co., 30 North La Salle St., Chicago, $2.09 per sq. yd. for sheet asphalt. A. C. Remley, city engr.

★**Milwaukee, Wis.**—Following bids opened Mar. 14 by Dept. Pub. Wks. for furnishing city road oil: Barrett Co., 222 28th St., Milwaukee, 50,000 gals. at $0.0625 ($3,125), awarded contract; Standard Oil Co., Milwaukee, 50,000 gal. at $0.0534 ($2,875); Barber Asphalt Paving Co., Philadelphia, Pa., 200,000 gal. at $0.085 ($17,000).

Racine, Wis.—Following are bids totaling more than $100,000 opened Mar. 17 by Bd. Pub. Wks. for paving portions of (a) Wilson and (b) Jones Sts., (c) Washington and (d) Carlisle Aves., and (e) Michigan Blvd.: J. R. Griffith at $2.12 per sq. yd. on (a), including grading, $2.49 per sq. yd. and $0.63 for curbs and gutters on (c); $2.29 per sq. yd., $0.63 for curbs and gutters, $0.35 for gutters on (e); $2.32 brick, $1.54 asphalt macadam, $2.15 concrete, $0.68 curb and gutter on (b). J. Cape & Son, at $2.15 per sq. yd. on (a), including grading, $2.42 per sq. yd. and $0.65 for curbs and gutters on (c); $2.19 per sq. yd., $0.69 for curbs and gutters, $0.40 for gutters on (e); $2.27 for brick, $1.45 for asphalt macadam, $2.15 for concrete, $0.69 for curb and gutter on (b). Birdsall Constr. Co., at $2.15 per sq. yd. on (a); R. R. Birdsall, $2.35 for brick, $0.67 for curb and gutters on (b); $2.45 per sq. yd. and $0.65 for curbs and gutters on (e). Western Improvement Co., including grading, at $2.46 per sq. yd. and $0.67 for curbs and gutters on (c); $2.12 per sq. yd. and $0.67 for curbs and gutters and $0.59 for concrete curbs on (d); $2.26 per sq. yd. for paving and $0.67 for curbs and gutters and $0.40 for gutters on (e); $2.34 for brick, $2.15 for sheet asphalt, $1.88 for asphaltic concrete, $0.67 for curbs and gutters on (b). J. Rasmussen, $2.14 per sq. yd. for paving and $0.66 for curbs and gutters on (d). Contractors all local.

★**Cedar Falls, Ia.**—Contract awarded by city to Bryant Asphalt Paving Co., Waterloo, Ia., at $76,000 to pave various streets with sheet asphalt and asphaltic concrete.

Des Moines, Ia.—City rejected all bids received recently for resurfacing with brick, Southwest 9th St. from Racoon River to Kirkwood Ave., lowest bid being $2.61 per sq. yd.; new bids will be asked. F. N. Carss, city engr.

★**Keokuk, Ia.**—Contract awarded by city (bids opened Mar. 13) to Keokuk Quarry & Constr. Co., Keokuk, Ia., at $1,395, to pave 8240 sq. yds. concrete paving and at $0.39 for curbing; to Cameron, Joyce & Co., at $1.395, to pave 1920 sq. yds. and at $0.395 for curbing. J. F. Winters, city engr.

★**Oelwein, Ia.**—Contract awarded by city (bids opened March 12) to Dearborn Constr. Co., Waterloo, Ia., at $25,740, for paving 11,000 sq. yd. on various streets. G. H. Bishop, engr.

Minneapolis, Minn.—Following are 4 lowest bids opened March 2 by K. E. Alexander, city purch, agt., for 175,000 sq. yd. creosoted wood block pavement: (a) 3½-in. blocks, (b) 4-in. blocks, (c) rail block, extra, (d) filler strips: Midland Creosoting Co., St. Louis, Mo., (a) $1.532 per sq. yd., (b) $1.714 per sq. yd., (c) $0.12 per sq. yd., (d) $0.015; Kettle River Co., Plymouth Bldg., Minneapolis, (2 bids), (a) $1.59, $1.69, (b) $1.79, $1.89, (d) $0.03; Aver Lord Tie Co., (2 bids), (a) $1.60, $1.64, (b) $1.85, $1.89; Central Creosoting Co., (a) $1.66, (b) $1.84, (c) $0.15, (d) $0.02. E. R. Dutton, assist. city engr.

★**Tracy, Minn.**—Contract awarded by city to Hanlon & Okes, Minneapolis, Minn., at $2.60 per sq. yd. to pave 17,000 sq. yd. on 8 blocks of streets with creosote blocks.

★**Neodesha, Kan.**—Contract awarded by city to J. K. Shinn to pave 10½ blocks of streets with brick.

★**Falls City, Neb.**—Contract awarded by city (bids opened Mar. 23) to Monarch Engr. Co., Falls City, to pave with brick and construct curbs and gutters in streets in Dist. No. 14.

★**Kearney, Neb.**—Following are bids opened Mar. 5 by city for paving with one course 6-in. concrete cement pavement, streets in paving dists. Nos. 21, 22 and 23; total estimated cost, $10,000; Dan Quinton, Kearney, Neb., at $1.42 per sq. yd. (awarded contract Mar. 19); E. R. Edwards & Son, Kearney, Neb., $1.43; E. D. Tyner Constr. Co., Kansas City, Mo., $1.45. T. N. Hartzell, city clk.

Omaha, Neb.—Following are bids received by city for grading, requiring about 80,000 yd. earth removed, new boulevard from Fontenelle to Miller parks, traversing route on west and north sides of Ft. Omaha: Williams & Son, 16.9 cts. per cu. yd.; J. E. Turner, 17.5 cts.; Lehmer Bros., 21 cts.; Lamoreaux Bros., 805 Brandies Theater Bldg., 19.8 cts.; contractors all local.

★**Fargo, N. D.**—Contracts totaling $366,967 were awarded by city Mar. 21 to Kennedy Constr. Co. and S. Birch & Son to pave 5 miles of streets with bitulithic.

★**Wahpeton, N. D.**—Contract awarded by city to S. Birch & Sons Constr. Co., Fargo, N. D., at about $80,000 to pave 26,000 sq. yd. with bitulithic.

★**Kansas City, Mo.**—Following are 4 lowest bids opened Mar. 20 by Bd. Pub. Wks. for the construction of Beardsley Ave., north of 12th St.: List & Weatherly Constr. Co., 2825 Troost Ave., $37,140 (awarded contract); Jones-Koehler Constr. Co., Keith & Perry Bldg., $37,897; Kansas City Constr. Co., $39,197; Bert L. Elmer, $40,099. Contractors all local. Curtis Hill, city engr.

★**Jacksonville, Tex.**—Contract awarded by county (J. E. McFarland, comr.) at $2,500 per mile to Smith Bros., Crockett, Tex., to construct 4 roads totaling 25 miles; bids opened Mar. 20.

★**Ellensburg, Wash.**—Contract awarded by county to Hutter Constr. Co., Cle Elum, Wash., at $13,974, to construct permanent highway No. 3-B, 5 1/5 miles long, and to O. S. Brown, Prosser, Wash., $19,530, to construct permanent highway No. 2-C.

Everett, Wash.—Lowest bid received by Co. Comrs. (Mae Weatherbee, aud.) to pave roads 4, 5 and 34 was from A. L. Clark, care Washington Paving Co., L. C. Smith Bldg., Seattle, at $13,838, $32,078 and $31,-132 respectively.

★**Ritzville, Wash.**—Following are bids opened Mar. 9 by L. Schragg, co. aud., to grade, gravel and construct culverts and bridges on 5½ miles of permanent highway No. 1B: H. C. Root, Spokane, at $24,940 (awarded contract); Zane & Donnell, Ritzville, Wash., $26,496; Spokane Asphalt & Macadam Paving Co., Spokane, $26,745; C. L. Stickler, Seattle, $27,000.

★**Seattle, Wash.** — Contract awarded March 16 by Bd. Pub. Wks. to Independent Asphalt Paving Co., Northern Bank & Trust Bldg., at $117,760, to pave with asphalt with brick gutter and brick block on grades, W. McGraw and other streets on Queen Anne Hill.

County Comrs. rejected all bids received for construction of Julia Blinn road; low bidder, Renseith Bros., Everett, Wash., $21,000. S. J. Humes, co. engr.

★**Tacoma, Wash.**—Contract awarded by county (Thos N. Norris, aud.) to Independent Asphalt Paving Co., Northern Bank & Trust Bldg., Seattle, at $34,350, to pave with 2-in. bitulithic, Hill road out of Tacoma.

★**Linnton, Ore.**—Contract awarded by Co. Comrs., Portland, to Warren Constr. Co., Portland, Ore., at $180,922, to pave St. Helens Road, 10 miles long, from here to Columbia Co. line.

★**Colton, Cal.**—Contract awarded by city to Highway Constr. Co., Highland, Cal., to pave about 100,000 sq. ft. on Colton Ave. and on 8th St. with concrete.

Corona, Cal.—Lowest bid opened recently by Bd. Supervs., Riverside, to construct 3.5 miles of Corona to Elsinore road with 4-in. concrete pavement, 16 ft. wide, involving 18,500 lin. ft. grading, 3700 cu. yd. "B" concrete, was from J. S. Miller, Santa Monica, Cal., at $10,360.

San Jacinto, Cal.—Only bid received by city for paving several streets with concrete rejected; work will be done by day labor. Bidder, Gaff & Hunt, local, at $26,500.

Ventura, Cal.—Following are 3 lowest bids opened March 13 by county to construct 7.54 miles of 4-in. concrete pavement: Brashear-Burns Co., Los Angeles, Cal., $31,602 (bid under advisement); Conner Contracting Co., Los Angeles, $31,726; C. H. Hudson, Los Angeles, $33,833. J. B. McCloskey, co. clk.

★**Douglas, Ariz.**—Contract awarded by city (bids opened Mar. 5) to S-C Contr. Co., 2026 Compton Ave., Los Angeles, Cal., at about $340,000, to pave approximately 140,-000 sq. yd. on 5 streets with 7-in. concrete and 2-in. topeka on 5-in. concrete, including construction of concrete walks and gutters and cement curbs.

★**Flagstaff, Ariz.**—Contract awarded for constructing 10 miles of logging road for Flagstaff Lumber Co., to Sharp-Fellows Constr. Co., Central Bldg., Los Angeles, Cal.

RAILWAYS
Steam and Electric

PROPOSED WORK

Hartford, Conn.—Connecticut RR. Co. (Fred Miller, supt.), asked Bd. St. Comrs. for permission to construct additional tracks on Charter, Oak and Huyshope Aves. and double tracks on Albany and Blue Hills Aves.

Allentown, Pa.—Lehigh Valley Transit Co. (W. W. Wysor, ch. engr.) plans improvements to cost $135,000.

Ashbourne, Pa.—Ashbourne Improvement Assoc. taking steps to abolish grade crossings in town.

Chester, Pa.—Baltimore & Ohio RR. Co. (R. N. Begien, ch. engr., Baltimore, Md.) offered to pay half of cost of elevating its tracks through Chester if city will do likewise; cost estimated at $1,000,000.

Columbia, Pa.—Pennsylvania R.R. (Alex C. Shand, ch. engr., Philadelphia) plans extending 3 miles of track, filling in of Kerbough Lake and elimination of tunnel near city; also yard improvements.

Johnstown, Pa.—Baltimore & Ohio Railroad Co. (R. N. Begien, ch. engr., Baltimore, Md.) plans enlarging yards here; portions of 12 streets will be vacated to make room for the improvement.

Nesquehoning, Pa.—Lehigh & New England R.R. (R. H. Wilbur, gen. mgr., Philadeuphia) reported considering extending its line from here to Mauch Chunk.

New Castle, Pa.—Pittsburgh, Harmony, Butler & New Castle Ry. (Williston Fish, vice-pres., Pittsburgh), reported considering extension from here to Sharon.

Pittsburgh, Pa.—West Pennsylvania Ry. Co. (J. L. Fritsch, ch. engr., Pittsburgh) plans spending $45,000 on improvements.

Swissvale, Pa.—Pittsburgh, McKeesport & Youghiogheny RR. Co. (J. J. Turner, pres., Pittsburgh, made application to the Pub. Serv. Comn., to relocate part of Braddock Field line in Swissvale Boro.

Buckhannon, W. Va.—Coal & Coke Railroad Co. (I. K. Dye, gen. mgr., Elkins.) considering construction of 3 miles of new line between Adrian and Buckhannon.

Harpers Ferry, W. Va.—Charter reported granted to Atlantic & Northwestern Ry. with a capital of $5,000,000 to construct a road from here to Newport News, Va., and also to a point at or near Morgantown, W. Va. Wm. B. Emmert, pres.; F. Mays, secy.-treas., both of Washington, D. C.

Augusta, Ga.—Augusta Southern R. R. (J. A. White, supt.) reported will improve grades between here and Keysville about 26 miles.

Augusta, Ga.—The receivers of the Georgia & Florida RR. Co. (D. F. Kirkland, gen. mgr.) reported to have purchased the Augusta Southern RR. and will make improvements, including readjustments of equipment and grading from here to Keysville.

Macon, Ga.—It is reported that the Ocilla Southern RR. (J. F. Gray, gen. mgr., Ocilla) will probably be extended to Macon, a distance of about 28 miles.

Chavies, Ky. — Reported Louisville & Nashville RR. Co. (H. C. Williams, ch. engr., Louisville) plans construction of 2 mile line from here to coal mines of Crevona Coal Co.

Holloway, O.—Plans being considered for construction of electric railway in Harrison Co., from a point below Holloway to Jockey Hollow field near Moorefield. J. A. Bell, Oliver Bldg., Pittsburgh, Pa., reported interested.

Warren, O.—Erie RR. Co. (R. S. Parsons, ch. engr., New York) reported to be contemplating elimination of grade crossings on S. Tod, Highland, S. Main. S. Pine and S. Park Aves., and construction of overhead crossing; also a union station.

Manning, N. D.—Farmers in this vicinity subscribed $70,100 for proposed railroad through Emerson Co., along Knife River, to connect Manning, Emerson and Center. Road will probably be extended to Mandan later.

Dallas, Tex.—City Comn. reported to have approved plans of Missouri, Kansas & Texas RR. (L. F. Lonnbladh, ch. engr.) for track elevation in North Dallas to include stone abutments on Fairmount St., Cedar Spring Road, Bowen St. and Lemmon Ave.

Fluvana, Tex.—Roscoe, Snyder & Pacific R. R. Co., considering an extension from here southwest to Gail, about 24 miles.

Ft. Worth, Tex.—Houston & Texas Central R. R. (I. A. Cottingham, ch. engr., Houston) reported to have obtained right of way for a belt line around Ft. Worth connecting all railroads.

Claremore, Okla.—Reported Claremore Commercial Club plans construction of electric railway from Skiatook to Pryor, via Collinsville and Claremore about 40 miles.

North Yakima, Wash.—C. E. Barrett, co. aud., reports comrs. granted a franchise for construction of concrete rail toll road between Naches City and McAllister Meadows to F. L. Pittman and T. A. Noble.

Klamath Falls, Ore.—In order to provide funds for construction of Klamath Falls Municipal RR. to Dairy, 22 miles east of here, City Council passed ordinance for sale of 6 railroad warrants, $50,000 each.

Ely, Nev.—Walter Trent and others secured franchise from the State Assembly to construct railroad from Eureka to Ely to a point on the Tonopah & Goldfield RR. about 130 miles.

Tonopah, Nev.—Bullfrog-Goldfield RR. Co. (A. Maguire, ch. engr., Los Angeles, Cal.) incorporated to construct a railroad from Goldfield to Bullfrog, 75 miles; cost about $1,500,000. F. A. Keith, W. L. Garden and A. C. Briggs, of Tonopah, reported interested.

St. Thomas, Ont.—St. Thomas St. Ry. (M. Ferguson, ch. engr.), plans extending street railway line to Queen and Center Sts.

PRICES AND LETTINGS

★*Indicates award of contract.*

Brooklyn, N. Y.—Lowest bid recently received by Pub. Service Comn., 1st Dist., New York, for steel for special work in the Eastern Parkway subway submitted by Bethlehem Steel Products Co., 111 Bway., New York, at $34,136.

★**New York, N. Y.**—Contract awarded by Pub. Serv. Comn., First Dist., for frogs and switches to be used on the elevated portions of Pelham Park extension of the Lexington Ave. Subway, to Ramapo Iron Wks., 30 Church St., at $41,802.

★**Tampa, Fla.**—Contract awarded by Export Ry. (H. L. Pierce, pres.), for construction of 9 miles of line from phosphate mines to Hillsborough Bay, 6 miles south of Tampa, and 6 miles extension to South Tampa to E. W. Parker, of Tampa.

★**Bozeman, Mont.**—Contract awarded by Northern Pacific Ry. Co. for grading and track laying on 33 mi. of new road between here and Logan to Martin Wolson railroad contr., Spokane, Wash.; cost $225,000.

INDUSTRIAL PLANTS AND WAREHOUSES

PROPOSED WORK

Hartford, Conn.—Hartford Industrial Development Corp. granted permit for erecting factory on Arbor St. near Boulevard, 4 stories, of brick; cost $150,000.

Rochester, N. Y.—Vacuum Oil Co., 61 Bway., New York City, made application for permit to add three buildings to its plant on Exchange St., one 140 x 100 ft. concrete for can factory, brick and steel and concrete box storage building, 90 x 91 ft., and boiler and cold storage building, brick, steel and concrete, 171 x 38 ft.; cost $175,000.

Bloomfield, N. J.—Westinghouse Church Kerr Co., 37 Wall St., New York, plans erecting addition to plant, 4 stories, 804 x 140 ft., to cost $62,000.

Elizabeth, N. J.—Singer Manufacturing Co. plans erecting addition of 1-story, 200 x 200-ft. to foundry to cost $60,000.

Linden, N. J.—Reported Grasseli Chemical Co. plans trecting 200 x 40-ft. addition to present plant to cost $63,000.

Paulsboro, N. J.—Standard Fuse Corporation will erect addition to cost about $50,000.

Blacklick, Pa.—Plans being prepared for erecting new factory building for Marshall Foundry Co. here to cost $100,000. Work will begin in early part of spring.

New Castle, Pa.—Reported Armour Packing Co., Chicago, Ill., will erect new packing plant here to cost about $60,000.

Philadelphia, Pa.—Contract will soon be let for erecting 1, 2 and 4-story brick and reinforced concrete, 60 x 320-ft. factory building for American Metal Co. Kern Dodge, engr.

Pottstown, Pa.—Industrial Foundry & Machine Co. plan erecting new 1-story foundry, 50 x 135 ft., with wing 30 x 30 ft. building for manufacture of steam fittings and kindred products.

Sharon, Pa.—Plans prepared by E. E. Clepper Co., archts. and engrs., 1020 Engineers' Bldg., Cleveland, for erecting steel and brick factory, garage and club houses for Permanent Products Co. Building will be 450 x 1000 ft. and cost $280,000. Bids now being received; equipment to cost $300,000.

Baltimore, Md.—National Enameling & Stamping Co., 1901 Light St., had plans prepared for erecting 4-story building of brick and steel on Light and Well Sts.; cost about $60,000.

Bristol, Va.—Reported Clinchfield Hosiery Mills, Inc., Richmond, increased capital stock to $500,000 for erecting new factory building here. Sherwood E. Hall, pres., White Plains, N. Y.

Follansbee, W. Va.—Reported La Belle Iron Wks., E. 31st. St., Wheeling, W. Va., contemplate erecting plant at Follansbee; cost $5,000,000.

Richwood, W. Va.—Reported William F. Mosser Co., here, plans erecting additional buildings and installing new machinery to cost $250,000.

Cleveland, O.—C. F. Mitchell & Son, Cedar Ave. and E. 65th St., makers of automobile sheet metal parts, contemplate erecting plant on E. 131st St.; cost $250,000.

Dayton, O.—Reported Seybold Machine Co. made application for an increase in capital stock from $100,000 to $1,000,000 for enlarging paper-making machinery plant here. Wm. L. Valiquette, gen. mgr.

Frankfort, Ind.—Plans being prepared by J. F. Sheblessy for erecting cigar mfg. plant to cost $50,000 for N. N. Smith & Co., Frankfort.

Springfield, Ill.—Reported Armour & Co., Chicago, packers, plan erecting distributing plant here to cost $150,000.

Clinton, Ia.—Plans being prepared by Chas. S. Frost, 105 S. La Salle St., Chicago, and Lambert Bassindale, 321 Capital Bank Bldg., St. Paul, Minn., for erecting freight house for Chicago & North-Western R.R. Co. (W. H. Finley, ch. engr., Chicago), to cost $120,000.

St. Cloud, Minn.—Site has been purchased and Pan Motor Co., Inc., capital stock $5,000,000, plans erecting auto factory building here.

York, Neb.—Citizens voted March 20 for $225,000 bonds for erecting four new school buildings. Dr. W. L. Burnard, secy. bd. educ.

Spokane, Wash.—Reported plant of Gray Mfg. Co., recently destroyed by fire with loss of $90,000, will be rebuilt immediately.

Tacoma, Wash.—See "Reinforced Concrete."

Portland, Ore.—Newly organized Portland-Damascus Milk Co. has taken 15-year lease on property in upper Washington St. and plans erecting 2-story brick and concrete building immediately to cost $50,000.

Chowchilla, Cal.—Reported Louis F. Swift of Swift Packing Co., Chicago, and O. A. Robertson, Sacramento, Cal., will erect large beet sugar factory, sink wells, install pumps and enlarge present irrigation system on 42,000-acre tract near here.

Oroville, Cal.—U. S. Exploration Co. plans erecting large mill and power plant at its mine in Granite Basin this summer.

BIDS DESIRED

Philadelphia, Pa.—Reported desired until Apr. 15 by E. S. Dyer, 1517 Land Title Bldg., Philadelphia, engr., for erecting 3 and 1 story 350 x 60 and 150 x 43 and 40 x 30 ft. factory, dye and power house for Bellevue Worsted Mills; cost $100,000.

Washington, D. C.—Until April 9, by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., for spec. No. 2334, for erecting gun shop at navy yard here.

Keyport, Wash.—Until Apr. 23 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Washington, D. C., for Spec. No. 2339, erecting magazine for war head, having concrete foundations, at Pacific Coast Torpedo Station here.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Elizabeth, N. J.**—Contract awarded by Waclark Wire Co., S. Front St., to Almion Engr. & Constr. Co., for erecting addition of 1 story to present rolling mill; cost $75,000.

★**Nebraska City, Neb.**—General contract awarded by Bd. Educ. to James Welsh, local, at $53,313 for erecting two school buildings, and plumbing and heating to Robt. Parkes, Omaha, at $12.882. W. F. Gemandt, archt., 437 Keeline Bldg., Omaha.

BUILDINGS
Public and Private

PROPOSED WORK

Dorchester, Mass.—Plans prepared by J. J. Driscoll for erecting locker building and bathhouse for city of Boston at Savin Hill; there will also be a playground and seawall project. To cost about $150,000.

Shirley, Mass.—Thos. Hurley, Marlboro, is contractor for new $80,000 administration building at State Industrial School here.

Hartford, Conn.—Comm. on Finance reported favorably on House bill introduced by Representative William Leete of Enfield providing for $700,000 for erecting Hartford Co. jail.

Castleton, N. Y.—Citizens voted bond issue of $52,500 for erecting school building in school dist. No. 10 of Shodack.

Gloversville, N. Y.—Bd. Educ. will readopt plans and specifications for erecting $120,000 school building at North Main and Prospect Sts.

Atlantic City, N. J.—Corporation of which Congressman Isaac Bacharach is member plans erecting new hotel here on site of Windsor Hotel on Illinois Ave., to cost $3,000,000.

Atlantic City, N. J.—Reported Hotel Vanderbilt Co., Park Ave. and 34th St., New York City, plans erecting hotel at Florida Ave. and Boardwalk here to cost $3,500,000.

Bridgeton, N. J.—Revised plans for erecting 2-story and basement, 220 x 76-ft. high school building with wing 73 x 70 ft., completed; cost $125,000.

Elizabeth, N. J.—McManus Bros., 109 1st St., contemplates erecting addition to their furniture store on East Jersey St.; cost $75,000.

Glassboro, N. J.—Bd. Educ. plans rebuilding high school building recently destroyed by fire with loss of $50,000.

Newark, N. J.—Reported Julius Sharff will erect 4-story brick apartment building at Belmont Ave. and Alpine St., to cost $50,000.

Seaside Heights, N. J.—A company (Frank H. Freeman, Seaside Heights, treas.) has been chartered to erect $125,000 hotel here.

Abington, Pa.—Citizens will vote on issuing $50,000 bonds for erecting school building.

Allentown, Pa.—Bd. Dir., Rescue Mission, contemplates erecting new mission building to cost about $50,000.

Allentown, Pa.—M. E. Kern and D. G. Dery, owners of present Columbia Hotel, plan erecting $600,000 hotel on site of present building.

Aspinwall, Pa.—Election recently held voted in favor of issuing $130,000 for erecting high school.

Boylestown, Pa.—Election will be held May 1 for issuing $75,000 bonds for erecting school building.

Harrisburg, Pa.—Plans being prepared by W. L. Stoddart, 9 E. 40th St., New York, and Esenwein & Johnson, Buffalo, for erecting 8-story granite and brick hotel building at 3d and Market Sts. to cost $1,000,000.

Lenape, Pa.—Offer of Pierre S. Dupont to subscribe $50,000 for erecting consolidated and vocational school building has been accepted.

Philadelphia, Pa.—Reported Mayor T. B. Smith favors erecting proposed conventional hall with money now available, which is $1,438,000. J. T. Windrim, archt.

Reported Lit Bros., 8th & Market Sts., will erect department store to cost $1,000,000; bids will soon be received. Simon & Bassett, archts., Chestnut St., Philadelphia.

Plans prepared by E. Oelschlager for erecting addition and altering House of Correction at Holmesburg for Philadelphia; cost $90,000. Bids will soon be received.

Preliminary plans being prepared by Horace Trumbauer, Land Title Bldg., for erecting 8-story, brick, stone and terra cotta, 120 x 175-ft. apartment house at 2206 Green St. for Herkness & Stetson, agents.

Philadelphia, Pa.—Reported Philadelphia General Hospital, Southampton Ave., and Meeting House Rd., will have four new dormitories to cost $200,000.

Slatington, Pa.—High School recently destroyed by fire will be rebuilt; cost about $75,000. B. Gish, secy. bldg. com.

Cumberland, Md.—New barracks will be erected by Cumberland Salvation Army; cost about $50,000.

Wilmington, Del.—Legislature appropriated $50,000 toward $250,000 armory which city plans erecting.

Alma, Ga.—Election will be held June 1 in Bacon Co. for issuing $100,000 bonds for erecting courthouse and jail buildings.

Macon, Ga.—Plans being prepared by Alexander Blair, archt., Macon, for erecting auditorium to cost $100,000. Bids will soon be called by Mayor Bridges Smith.

Thibodaux, La.—Federal building soon to be erected; cost $65,000.

Clarksdale, Miss.—S. A. Corley, Clarksdale, having plans prepared for erecting office building.

Memphis, Tenn.—School bonds for $325,000 will be sold Apr. 9 by A. B. Hill, sec. bd. educ.

Hazard, Ky.—Rtported Hazard Hospital reorganized by M. E. Combs and others and will erect new $50,000 hospital building.

Columbus, O.—Reported Ohio Sunday School Assn. (Dr. W. G. Clippinger, Westerville, pres.), plans erecting headquarters building to cost $50,000.

Citizens voted $60,000 bonds for erecting new school buildings in Perry Township.

Defiance, Ohio.—Plans completed for erecting high school building here, 3-story brick, 250 ft. long; cost $200,000.

East Cleveland, O.—Bd. Educ. plans to advertise for bids for technical high school, a junior high school, a grade school and heating plant; citizens voted $575,000 bonds for erecting same.

Kent, O.—Citizens voted $75,000 bonds for erecting centralized school building in Franklin Twp.

Terre Haute, Ind.—Plans prepared by D. B. Shourds for erecting grade and high school building, Sugar Creek Twp., accepted by Advisory Bd. of West Terre Haute (Thos. Concannon, trustee). Building will have 18 rooms, gymnasium and auditorium; cost between $50,000 and $60,000.

Detroit, Mich.—All bids received March 20 for erecting McMichael Junior High School building on Ferry Field, Grand River Ave. and Grand Blvd. rejected as being too high. Work abandoned for present.

Peoria, Ill.—Plans being prepared for erecting 5-story building for Baker & Wheeler Drug Co., to cost about $100,000.

Waukesha, Wis.—City voted $175,000 for erecting new high school.

Milwaukee, Wis.—Reported Oscar Brachman will erect twelve-family apartment house at 567 Stowell Ave., to cost $60,000.

Centerville, Ia.—Bd. Educ. purchased site on which to erect new $150,000 school building here. Work will begin this summer.

Charitan, Ia.—Election will be held Apr. 9 for issuing $65,000 bonds for erecting school buildings.

Marshalltown, Ia.—Senate passed measure already approved by House appropriating $65,000 for erecting additional building to Soldiers' Home here.

Nevada, Ia.—Bd. Supervs., Storey Co., plan erecting county home building to cost $75,000.

Sioux City, Ia.—Reported North American Hotel Co. (W. B. Nation, pres.) here plans erecting 10-story hotel building to cost $750,000. Work will begin at once.

Aurora, Minn.—Plans prepared by Tyrie & Chapman, Auditorium Bldg., Minneapolis, for erecting school building to cost $125,000. Contract will soon be let.

Bemidji, Minn.—State Normal School Bd. (J. C. Wise, Mankato, member) plans erecting main building for state normal school here to cost about $265,000; also girl's dormitory to cost $85,000.

Brainerd, Minn.—Reported J. S. Eltin is interested in project to erect $200,000 hotel building here.

Davenport, Ia.—Citizens voted $450,000 bond issue for erecting junior high school building here.

Duluth, Minn.—Plans prepared by De Waard & Stauduhar, 311 Glencoe Building, for erecting brick school building to cost $110,000. Bids being received.

Glen Lake, Minn.—Senate authorized bond issue of $300,000 for enlarging Tuberculosis Sanitarium here.

Marshall, Minn.—Plans prepared for Bd. Educ. by E. F. Broomhall, 710 Alworth Bldg., Duluth, for erecting $60,000 school building here.

Minneapolis, Minn.—Hennepin Senate Delegation approves bill creating commission to erect and maintain civic auditorium with $1,000,000 bond issue.

Senate authorizes bond issue of $100,000 for erecting fire stations here.

Moorhead, Minn.—Bd. Educ. plans erecting high and grade school building soon to cost about $225,000.

St. Paul, Minn.—Plans being prepared by A. H. Stem, 601 Endicott Bldg., for erecting 3-story addition to present Cedar Exchange Building of Northwestern Telephone Exchange Co., 39 E. 5th St.; cost about $100,000.

St. Paul, Minn.—M. R. Ryan, 812 New York Life Bldg., plans erecting 10-story addition to St. Michael Hotel building at 506 St. Peter St., to cost $175,000.

Topeka, Kan.—Plans prepared by State Archt. Chandler for rebuilding east wing of Capitol; cost $75,000.

Scottsbluff, Neb.—Nebraska Bldg. & Investment Co., Lincoln, plans erecting hotel building here to cost $100,000.

West Point, Neb., will begin erection of new proposed parochial school building to cost $60,000 in near future.

York, Neb.—Bids being received by York Hotel Co. for erecting $100,000 hotel building here.

Dickinson, N. D.—Reported erection of new federal building here will soon be commenced; cost $100,000.

Fargo, N. D.—Bd. Educ. contemplates erecting new Central high school to replace one destroyed by fire; cost $250,000.

Fargo, N. D.—Plans being prepared by Haxby & Braseth, Fargo, for erecting grade school building here to cost $100,000.

Jamestown, N. D.—Jamestown College (Mr. Kroeze, pres.), will erect chapel and music hall to cost $50,000.

Mandan, N. D.—Missouri Valley Grocery Co. contemplates erecting building on Main St.; cost $60,000.

Parker, S. D.—Citizens of Tripp Co. will vote on $65,000 bond issue for erecting court house. V. B. Clikeman, co. aud.

Tripp, S. D.—Election will be held April 17 for issuing $265,000 bonds, $65,000 of which will be used for erecting court house building.

Billings, Mont.—Reported Lee Mains and associates will erect 5-story modern office building at 1st Ave. and 27th Sts. this summer, to cost about $150,000.

Butte, Mont.—Plans prepared by A. Werner Lignell, Alworth Bldg., Duluth, Minn., for erecting Labor Temple to cost $100,000.

Great Falls, Mont.—Plans being prepared by Geo. H. Shanley, local archt., for erecting 3-story, 48 x 150-ft. brick, terra cotta apartment house at 2d Ave. and 8th St.; cost $72,000.

Libby, Mont.—Plans being prepared by Whitehouse & Price, Spokane, for erecting 3-story, 14-room school building here to cost $50,000.

Austin, Tex.—State Inspector of Masonry, W. R. Hendrickson, approved plans for following buildings: Veterinary science bldg., for A. & M. College, $100,000; power house at said college, $60,000; domestic science bldg. at Prairie View Normal School, $50,000, and laundry same school, $15,000.

Beaumont, Tex.—Contract will soon be let by Y. W. C. A. for erecting steel and concrete building; cost $65,000.

Dallas, Tex.—Thos. Goggan & Bros., Dallas, will erect steel and concrete office building; cost about $200,000.

Hubbell & Green, Dallas, completed plans for $150,000 Sunday school building and are preparing plans for $300,000 church.

Dallas, Tex.—Contract will soon be let for erecting 5-story training school building for nurses at Baptist Sanitarium, to cost $150,000. M. H. Wolfe, chmn. building comn.

Denton, Tex.—Reported First Baptist Congregation will rebuild edifice recently destroyed by fire; new building will cost $50,000.

Houston Heights, Tex.—Citizens voted $225,000 for erecting new school buildings; $168,000 for high school and $30,000 for negro school; balance for repairs. Address Bd. Educ.

Waxahachie, Tex.—National Bank of Waxahachie plans erecting $150,000 steel and concrete office building.

Ardmore, Okla.—Reported Sharpe Hotel Co. (Charles von Weiss, pres.) will erect hotel structure to cost $200,000. Excavation contract will be let this week.

Coalgate, Okla.—Plans being prepared by Ye Planry, Inc., Dallas, for erecting high school building here to cost $50,000.

Marietta, Okla.—Reported Bd. Educ. will erect $50,000 high school building here.

Oklahoma City, Okla.—Election will be held Apr. 3 for issuing $560,000 bonds for erection and improvement of school buildings.

Aberdeen, Wash.—Plans being prepared by E. C. Troutman, local, for erecting 16-room school building to cost $60,000.

Everett, Wash.—Clarence Parker and associates here plan erecting 5-story, 125 x 120 ft., hotel building on corner of Wetmore and Wall Sts. to cost $100,000; work to begin this spring.

North Yakima, Wash.—Mrs. Bertha Johnson plans erecting addition to Yakima Hotel building here to cost $50,000.

Olympia, Wash.—Plans being prepared by Stephen & Stephen, New York Block, Seattle, for erecting high school building here to cost $100,000.

Spokane, Wash.—Citizens voted $260,000 bonds for erecting school buildings here.

Spokane, Wash.—Leonard Estate, C. L. Matthews, trustee, plans erecting 3-story, 50 x 150-ft. fireproof business building this year.

Tacoma, Wash.—Reported P. C. Creso will erect 3-story, 65 x 125 ft., apartment building at South 9th and E Sts.; cost $50,000.

Enterprise, Ore.—Plans being prepared by Tourtellotte & Hummel, Rothschild Bldg., Portland, for erecting 2-story, hollow tile, white face brick, school building here to cost $60,000.

Salem, Ore.—Plans being prepared by Robert F. Tegen, Portland, for erecting hospital building for Salem Hosp. Assn. to cost either $85,000 or $115,000.

Los Angeles, Cal.—Morgan, Walls & Morgan, 1136 Van Nuys Bldg., engaged to prepare plans for erecting four-story and basement fireproof 150 x 175-ft. mercantile building on 7th St. between Grand Ave. and Hope St. for I. W. Van Nuys, San Francisco.

T. T. Mayo, 530 Black Bldg., contemplates erecting 4-story and basement, 260 rooms, 75 x 200-ft. brick apartment house at 953 7th St.; cost $80,000.

Oroville, Cal.—Bonds for $80,000 voted by Oroville Union School Dist. for erecting new school.

Oroville, Cal.—Citizens voted $60,000 bond issue for erecting new high school building here.

Whittier, Cal.—Plans being prepared by Allison & Allison, 1405 Hibernian Bldg., Los Angeles, for erecting administration building, auditorium to seat 800, science building, chemical building, two gymnasiums, library, observatory, dormitories, etc., all of masonry and concrete, for Whittier College; cost about $300,000.

Glendale, Ariz.—Citizens voted $50,000 bonds for erecting school building.

Mackay, Idaho.—H. B. Garletz, local capitalists, will erect 2-story, 50 x 70-ft. brick tile hotel building here to cost $50,000.

BIDS DESIRED

Portland Me.—Until Apr. 27, by Jas. A. Wetmore, superv. archt., treas. dept., Washington, D. C., for erecting steerage barracks for U. S. quarantine stations here.

Boston, Mass.—Until Apr. 6 by City Comrs. (Joseph P. Lomasney, member) for erecting school building for Oliver Wendell Holmes Dist., in and Glenway Sts., Dorchester.

New York, N. Y.—Until April 9 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Washington, D. C., for Spec. No. 2336, for installing electric passenger elevator at Naval Hospital here.

Easton, Pa.—Reported desired until Apr. 15 by W. M. Michler, Drake Bldg., archt., for erecting hospital, nurses' home and power house for Easton Hospital Assn. (Mrs. Mary Lilick, pres., 248 Spring Garden St.); cost about $150,000.

Columbia, S. C.—Until May 15, by Jas. A. Wetmore, superv. archt., treas. dept., Washington, D. C., for erecting U. S. post office building.

Decatur, Ga.—Until Apr. 12, by R. J. Freeman, co. comr., for erecting De Kalb Co. court house building; Walker & Chase, 1033 Candler Bldg., Atlanta, archts.

Gainesville, Fla.—Until Apr. 10, by W. M. Pepper, secy. bd. trustees, for constructing public library building; George MacKay, Ocala, Fla., archt.

Chattanooga, Tenn.—Until May 4, by Jas. A. Wetmore, superv. archt., treas. dept., Washington, D. C., for erecting U. S. post office building; advertised in this issue.

Whitesburg, Ky.—Reported desired until April 17, for erecting 3-story business and office building on Main St. for L. Wilson Fields, cost $50,000.

Cincinnati, O.—Until Apr. 16, by Anthony Kunz, Jr., 955 W. Court St., archt., for erecting 3-story, 354 x 253-ft., Mt. St. Mary's Theological Seminary at Norwood Heights.

Cincinnati O.—Until Apr. 25 (new date) by the Longview Hospital Bldg. Comn. for erecting new women's receiving cottage at Longview Hospital. Elzner & Anderson, Ingalls Bldg., Cincinnati, archts.

Michigan City, Ind.—Until Apr. 5 (new date) by G. J. Stiegler, 62 Pine St., pres. bd. educ., for erecting 2-story and basement high school building; cost about $50,000. Wilson B. Parker, 205 Board of Trade Bldg., Michigan City, archt.

Peoria, Ill.—Until April 15, by A. F. Moratz, Bloomington, for erecting 5-story addition to St. Francis hospital building; to be of steel and concrete; cost about $65,000.

Des Moines, Ia.—Reported desired until Apr. 17, by Bd. Educ. (A. L. Clinite, secy.), for remodeling West High School building; cost about $60,000. Keffer & Jones, 602 Youngerman Bldg., Des Moines, archt.

Breckenridge, Minn.—Until Apr. 23 by City (L. H. Standring, clk.) for erecting 2 story stone and brick city hall and fire station; separate bids for heating, plumbing, etc. Bell & Bentley, 518 Security Bldg., Minneapolis, archt.

Chisholm, Minn.—Until Apr. 18 by William Ritchel, clk., Independent school Dist. No. 40, for additions to and alterations of high school building; separate bids for heating, plumbing, etc. Tyrie & Chapman, 320 Auditorium Bldg., Minneapolis, Minn., archts.

Duluth, Minn.—Until about Apr. 20, by E. F. Broomhall, 710 Alworth Bldg., for erecting grade school building; cost about $100,000.

Fisher, Minn.—Until April 10 by Consolidated School Dist No. 13 (Chris. Weidenhoefer, clk.) for erecting school building; E. F. Broomall, 710 Alworth Bldg., Duluth, Minn., archt.

Ivanhoe, Minn.—At Apr. 17 by Bd. Co. Comrs. (Karl A. Hansen, co. aud.) will meet for selecting plans for erecting court house; cost about $60,000.

Mandan, N. D.—Until Apr. 14 by clk. St. Joseph's Parish for erecting parochial school building; cost about $50,000.

Commerce, Tex.—Until May 1, by Jas. A. Wetmore, superv. archt., treas. dept., Washington, D. C., for erecting U. S. post office building.

Denton, Tex.—Until Apr. 3 by Pres. College Industrial Arts for erecting 2-story and basement fireproof dormitory and dining hall.

Lubbock, Tex.—Until Apr. 11 by Bd. of Dir., Ponton Sanitarium, for erecting sanitarium building. Rose & Peterson, 715 Minnesota Ave., Kansas City, Kan., archts.

Modesto, Cal.—Until about Apr. 15 by Trustees Modesto High School Dist., for erecting 2-story school building, including auditorium and administration building and 2-story domestic science and manual training buildings, all of concrete and hollow tile; about $135,000 available. De Remer & Hewitt, archts., 624 Title Insurance Bldg., Los Angeles.

St. Johns, Ariz.—Reported desired until Apr. 18 for erecting 2 story court house building; Trost & Trost, El Paso, Tex., archt.

Ottawa, Ont.—Until Apr. 11, by John A. Pearson, archt., Centre Blk., Ottawa, for 596,500 sq. ft., of from 2 to 12-in. terra cotta fireproofing required in the erection of Parliament Bldgs.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**New Bedford, Mass.**—Contract awarded by Bd. Educ. to B. F. Smith Co., New Bedford, at $166,953 for erecting primary and grammar school building. Other bidders were Henry T. Bulman Corp., New Bedford, at $156,084, and C. B. Maguire Co., Providence, R. I., at $174,365.

★**Jersey City, N. J.**—Contract awarded by Wm. Robertson & Son, Inc., to James Mitchell, Inc., 76 Montgomery St., Jersey City, for erecting 3-story reinforced concrete building at Wayne and Merseles Sts., at $80,267.

★**Haverford, Pa.**—Contract awarded by Haverford College to Cramp & Co., Denckla Bldg., Philadelphia, for erecting 67 x 111-ft. concrete and stone addition to college at $100,000.

★**Philadelphia, Pa.**—Contract awarded Ketcham & McQuade, 1029 Brown St., Philadelphia, for erecting extension to artillery case shop and to instrument building at Frankford Arsenal at $85,000.

★**Birmingham, Ala.**—Contract awarded by Jas. A. Wetmore, Supv. Archt., Treas. Dept., Washington, D. C., to McCall Constr. Co., 1715 Sansom St., Philadelphia, for erecting postoffice here at $783,623.

★**New Orleans, La.**—Contract awarded John Thatcher & Son, 60 Park Ave., Brooklyn, N. Y., for erecting Elks' Home here at $288,285. Wogan & Bernard, archts., New Orleans.

★**Alliance, O.**—Contract awarded by Natl. Surety Co. to McCall Constr. Co., 1715 Sansome St., Philadelphia, for finishing new post office at $123,000.

★**Waukee, Iowa.**—Contract awarded by Bd. Educ. to Western Constr. Co., Iowa City, Iowa, for erecting 2-story and basement brick, cut stone, high school building here at $50,000. A. B. Carter, secy., Bd. Educ.

★**St. Paul, Minn.**—Contract awarded G. J. Grant Constr. Co., 902 New York Life Bldg., for erecting shoe factory at 9th and Rosabel Sts. by Thompson Shoe Co., at $150,000.

★**Butte, Mont.**—Contract awarded Wm. A. Hinkley for erecting 3-story brick and concrete hotel at Idaho St., to cost $50,000.

★**Helena, Mont.**—Contract awarded Leydon Ortseifen Co., Chicago, for erecting passenger station here to cost $70,000, for Illinois Central and North Arkansas railroads. (Mr. Baldwin, ch. engr. of Ill. Central RR., Chicago.)

★**Townsend, Mont.**—Reported by O. M. Cronk, secy. Townsend School Bd., that contract has been awarded T. N. Averill and C. W. Jarvis of Townsend for erecting high school at $42,000; structure complete will cost about $55,000.

Merced, Cal.—Following are four lowest bids received by Bd. Educ. for erecting high school buildings, using concrete, brick or hollow tile walls respectively: Welch-Wright Constr. Co., 1145 28th St., San Diego, at $134,214, $135,540 or $133,634; R. F. Reilley, San Francisco, at $137,339, $141,000 or $138,000; L. G. Bergren & Son, San Francisco, at $139,472, $136,572 or $142,472; J. L. Daly, Fresno, at $142,000, $141,500 or $143,500.

Sacramento, Cal.—Following are four lowest bids received on general contract for erecting Masonic Temple: Mathews Constr. Co., Sacramento, at $174,877; Howard S. Williams, San Francisco, at $184,300; William Murcell at $185,984; Lindgren Co., San Francisco, at $188,800.

★**Idaho Falls, Idaho.**—Contract awarded by Bd. Educ., to North Pacific Constr. Co., Pocatello, for erecting school building, at $47.825.

FOUNDATIONS, PIERS AND DAMS

BIDS DESIRED

Newport, Vt.—Plans completed by Newport Electric Light Co. for construction of masonry dam 600 ft. long and 20 ft. high near Arnold's Mills, to cost approximately $40,000; about 1000 hp. will be developed.

Ocean City, N. J.—City voted $38,000 bonds for extending 4th St. wharf and installing water mains on 12th St.

Philadelphia, Pa.—Reported the Cramp Shipbuilding Co., Dinkler Bldg., contemplates constructing drydock 1200 ft. long on southern end of Petty's Island.

Baltimore, Md.—Standard Oil Co., Pratt and Commerce Sts., contemplates constructing pier 1000 ft. long at foot of 2nd St.; also replacing two existng piers.

Martinsburg, W. Va.—Extensive improvements contemplated by Potomac Light & Power Co., Martinsburg, involving expenditure of about $150,000, to include rebuilding dam No. 5 and installation of hydraulic machinery. Emory L. Coblentz, Middletown, pres.

Bay St. Louis, Miss.—Supreme Court recently declared a $200,000 bond issue for constructing sea wall to protect Jackson County from Gulf of Mexico, illegal, and steps have been taken to reissue in accordance with court's decision.

Lima, O.—City Council voted $100,000 bond issue for river work. Von C. Miller, city engr.

Ontario, Ind.—Cain Water Power & Light Co., recently organized with capital of $75,000, to supply electricity in Lagrange, Rome City, Wolcottville and Ontario, will develop water power on Pigeon River and erect plant at Ontario; also another plant several miles out of the town. A. B. Cain, Ontario; William H. Cain, Butler; H. F. Cain, Mongo, and J. C. Cain, Buffalo, N. Y., incorporators.

Stevens Point, Wis.—Jackson Milling Co. contemplates constructing new water power dam, to include 16 30-ft. steel gates and 325-ft. concrete spillway, hydroelectric power plant 260 x 100 ft. also contemplated.

Bremerton, Wash.—Naval appropriation bill carried following improvements: Puget Sound Navy Yard, $3,000,000 for third dry dock; grading and fill, $325,000; quay wall, $500,000; fitting out pier, $900,000; floating steel drydock, $500,000.

Seattle, Wash.—Pacific Coast Co., Railroad and Washington Sts., will construct addition to dock at foot of Virginia St.; also construct 80 x 500 ft. dock and warehouse to replace part of Pier 11, on Railroad Ave. and Virginia St.; cost about $75,000.

Seattle, Wash.—Pacific Coast Co. Railroad and Washington Sts., Seattle, contemplates constructing dock; cost $50,000.

Gardiner, Ore.—Warren P. Reed, comr., Port of Umpqua, here, reports U. S. Government engineers at Portland, agreed to recommend expenditure of $530,000 for constructing jetty 1½ miles long on north side of Umpqua River's mouth. Government requested to pay half of cost, or $265,000; Port of Umpqua will raise another $65,000, its first bond for work being only $200,000.

New Toronto, Ont.—City contemplates constructing stone seawall about 6 ft. above the lake level on 6th St.; also a wharf.

BIDS DESIRED

Lebanon, Pa.—Until Apr. 19 by City Clk. for constructing Cont. No. 1, Flood Protection Project; Paul A. Volcker, city engr.; advertised in this issue.

Cincinnati, O.—Reported desired until Apr. 6 by Co. Comrs. (Fred E. Wesselman, pres.) for constructing revetment wall on Clough Rd.; work includes about 175 cu. yd. concrete and 7000 lb. twisted steel.

St. Louis, Mo.—Until April 9, by Secy. Mississippi River Comn., 1311 International Life Bldg., for constructing 259,100 cu. yd. earthwork in Shy Island levee drainage dist., Illinois.

Little Rock, Ark.—Until April 25, by U. S. Engr. office for constructing 2 dikes and repairing five others; advertised in this issue.

PRICES AND LETTINGS

★*Indicates award of contract.*

Longport, N. J.—Following bids opened Mar. 17 by Borough for constructing Longport protection work: Bader-Sutton & Corson, Ocean City, N. J., $383,248; Jas. Ferry & Son, 2411 Madison Ave., Baltimore, Md., $447,346. F. R. D. Bray, boro. recorder.

Baltimore, Md.—Following are four lowest bids opened for constructing breakwater at Ft. Henry: McLean Contr. Co., Fidelity Bldg., $51,000; Phoenix Constr. Co., 721 Munsey Bldg., $55,000; Sanford & Brooks Co., 24 Commerce St., $57,000; C. B. Clark Co., 26 Calverton Rd., $59,000, all of Baltimore. All bids rejected as being too high. New plans will probably be drawn, as Mayor suggests old plans will interfere with piers.

Ludington, Mich.—Following are bids opened March 12 by U. S. Engrs., Grand Rapids, for constructing pile substructure and concrete superstructure at Ludington Harbor: N. P. Nelson, Muskegon, $19,499 (recommended for acceptance); Ira J. Lyons, St. Joseph, $23,074; Robt. Love & Sons, Muskegon, $25,912; Greiling Bos. Co., Green Bay, Wis., $31,925.

Marquette, Mich.—Following are totals and unit figures bids opened March 9, by U. S. Engrs., Duluth, for furnishing and placing rock at Marquette breakwater: (a) T. L. Durocher, Marquette, $55,846; (b) Zenith Dredge Co., 303 Glencoe Bldg., Duluth, $61,996; (c) F. H. Chandler, 614 Torrey Bldg., Duluth, $69,945.

	(a)	(b)	(c)
Removal of 99 lin. ft. class A timber, etc.	$4.00	$4.25	$4.50
Furnishing 1300 short tons stone, 10 tons or over	2.50	2.75	2.60
Furnishing 23,000 short tons various size	2.25	2.50	2.85

★**Long Beach, Cal.**—Contract awarded H. W. Schleuter, 1225 Maryland St., Los Angeles, at $54,476 for constructing combined reinforced cement concrete seawall. Koebig & Koebig, engrs., Title Insurance Bldg., Los Angeles.

EXCAVATION, DRAINAGE AND DREDGING

PROPOSED WORK

Trenton, N. J.—State Legislature passed bill providing for preliminary survey for deepening of Matedreank River, Ocean County.

Paducah, Ky.—Contract will be let latter part of May for about 400,000 cu. yds. excav. and constructing several bridges on the Mayfield Drainage Dist.; estimated cost $302,980. J. E. Johnson, engr., Paducah.

Dover, Wis.—Plans being prepared by Town Bd. Dover and Rochester for Eagle Creek Drainage, about 5.68 miles, involving 102,698 cu. yd. excav., 28,898 lin. ft. tile, etc.; estimated cost, $37,520. P. J. Hurtgen, engr., Burlington, Wis.

Hampton, Ia.—County contemplates constructing Drain No. 59; cost about $18,000. G. Mack, engr., Courthouse.

Olivia, Minn.—Renville County contemplates constructing drainage ditches this summer to cost about $400,000.

Brownsville, Tex.—Riverside Development Co., incorporated with capital of $25,000. W. H. Mason, Jr., J. A. Russell, among incorporators.

Dallas, Tex.—County Comrs. passed order creating levy district No. 2 extending along Trinity River from Wilmer to Ellis Co. line; action on bond issues and reclamation work will begin later. A. S. Stiles, State Reclamation engr.

San Benito, Tex.—Santa Helena Improvement Co. recently purchased 16,000 acres 8 miles east of here, and contemplates constructing 20 miles main canal and 40 miles of laterals, 60-in. pump with internal combustion engine to be installed at the Rio Grande River for furnishing water for irrigation; cost about $500,000. P. A. Welty, engr. in charge, Brownsville.

Hermiston, Ore.—O. Laurgaard, cons. engr., Spaulding Bldg., Portland, engaged by Westland Irrigation Project and pronounced plan for irrigation feasible, including construction of dam containing 1,500,000 cu. yd. material, and preliminary surveys for basing reports and estimates of cost will be made immediately.

Fort Jones, Cal.—W. D. Mathews, W. T. Davidson, Frank H. Sharp and others will organize irrigation district comprising 40,000 acres in Scott Valley and secure water from Scott River by dam and canal 20 miles long.

Willows, Cal.—P. B. Cross, Oakland, and others contemplate constructing irrigation system consisting of pumping plants at Sidds Landing to lift water from Sacramento River and canals to serve 9500 acres of rice lands. Geo. Nelson, engr. on project.

Buckeye, Ariz.—Buckeye Irrigation Co. contemplates extending irrigation system; cost $55,000.

Tempe, Ariz.—Drainage Dist. will probably be organized to construct canals involving about 50,000 cu. yd. excavation. Address J. W. Miller, pres. Drainage Dist. No. 1.

BIDS DESIRED

New York, N. Y.—Until April 4, by Dept. Health (Alfred E. Shipley, secy., Centre and Walker Sts.), for improving certain areas in salt marshes in College Point section, in Queens Boro.; security, 50 per cent.

Marks, Miss.—Reported desired until April 5, by Co. Drain. Comrs. (H. D. Glass, pres.), for 1,200,000 cu. yd. ditch excavation; length of ditches 7 miles, average depth 8 ft.; also for 183,000 cu. yd. levee embankment, average fill 6 ft., etc. L. W. Washburn, engr., Clarksdale, Miss.

Bluffton, Ind.—Reported desired until Apr. 5 by T. C. Guldin, supt. constr., at office of co. surv., for constructing ditch in Nottingham Twp.

Carrollton, Ill.—Until April 7, by Comrs. Spankey Drain. Dist. (F. A. Whiteside, atty.), for constructing earth levee 3¾ miles long and 110,000 cu. yd. excavation, and open- drain ditch about 2¼ miles long of 27,000 cu. yd. excavation, together with pumping station, valves, etc. G. W. Whiteside, engr., Carrollton.

Winterset, Ia.—Reported desired until Apr. 4 by C. G. Norman, co. aud. for constructing tile drain ditch; cost about $11,141.

Warren, Minn.—Reported desired until Apr. 6 by A. G. Lundgren, co. aud., for constructing Judicial Ditch No. 29; work includes about 386,227 cu. yd, excavation and some culverts and bridges.

Clear Lake, S. D.—Until April 6, by Bd. Co. Comrs. (J. H. Lunde, chmn.) for constructing Anderson Drainage Ditch; advertised in this issue.

Woonsocket, S. D.—Reported desired until April 12, by Co. Aud., for constructing 3½ miles of drain in Sanborn Co. Drain. Dist. No. 29; cost about $17,000; also for 10.2 miles in Dist. No. 25, cost about $22,000; Dakota Eng. Co., Mitchell, S. D., engrs.

Calexico, Cal.—Until Apr. 5, by J. C. Allison, engr., 209 Anderson Bldg., for constructing canal for Black Butte Development Co., 6½ mi. long, 14 and 16 ft. bottom, 4 and 5 ft. deep, with slope 2 to 1, involving about 100,000 cu. yd. excavation, about 25 mi. southeast of Calexico, in Lower California, Mexico, near Coopah Station on Inter California Ry.

PRICES AND LETTINGS

★*Indicates award of contract.*

★**Bridgeport, Conn.**—Following are four lowest bids opened Mar. 21 by Bd. Contract & Supply, for renewing fenders, dredging, etc., at Yellow Mill Bridge: Toole & Sunderlin, 413 Warner Bldg., Bridgeport, (awarded contract), $17,975; T. A. Scott, New London, $18,189; Jas. McAvoy, 303 E. 127th St., New York, N. Y., $19,431; W. W. Hubbell, First National Bank Bldg., Bridgeport, $20,881. A. H. Terry, city engr.

New London, Conn.—Only bid received Mar. 23 by U. S. Engr. Office for dredging in Connecticut River below Hartford, about 100,000 cu. yd., was that of Hartford & New York Transportation Co., Hartford, at 16 cts. per cu. yd. recommended for acceptance.

Ft. Laramie, Wyo.—Following are totals and unit figures of bids opened Mar. 15, by U. S. Reclamation Service, here, for earthwork and structures at Ft. Laramie canal, in all about 2,227,000 cu. yd. excav., 3200 cu. yd. concrete, 190,000 lb. steel, etc.: (a) MacArthur Bros., 11 Pine St., New York, N. Y., $447,562; (b) Winston Bros., 801 Globe Bldg., Minneapolis, Minn., $533,301; (c) Engineer's estimate, $533,900; J. E. Hilton, Lingle, Wyo., bid only on Schs. 1, 2, 3, 4, $390,270; Omaha Steel Bridge Co., Omaha, Neb., Schs. 6 and 7 only, $147,580.

	(a)	(b)	(c)
Sch. 1			
252,000 cu. yd. excavation, class 1	$0.153	$0.14	$0.16
28,000 cu. yd. excavation, class 2	0.30	0.40	0.30
3,500 cu. yd. excavation, class 3	0.60	0.75	0.75
63,000 sta. yd. overhaul	0.02	0.02	0.02
Sch. 2			
278,000 cu. yd. excavation, class 1	0.153	0.13	0.16
2,000 cu. yd. excavation, class 2	0.30	0.40	0.30
1,500 cu. yd. excavation, class 3	0.60	0.75	0.75
155,000 sta. yd. overhaul	0.02	0.02	0.02
Sch. 3			
238,000 cu. yd. excavation, class 1	0.153	0.13	0.16
10,500 cu. yd. excavation, class 2	0.30	0.40	0.30
6,500 cu. yd. excavation, class 3	0.60	0.75	0.75
125,000 sta. yd. overhaul	0.02	0.02	0.02
Sch. 4			
313,000 cu. yd. excavation, class 1	0.152	0.13	0.16
2,000 cu. yd. excavation, class 2	0.30	0.40	0.30
1,000 cu. yd. excavation, class 3	0.60	0.75	0.75
150,000 sta. yd. overhaul	0.02	0.02	0.02
Sch. 5			
774,000 cu. yd. excavation, class 1	0.12	0.24	0.15
252,000 cu. yd. excavation, class 2	0.245	0.24	0.30
72,500 cu. yd. excavation, class 3	0.245	0.24	0.75
Sch. 6			
13,000 cu. yd. excavation, class 1	0.25	0.25	0.30
100 cu. yd. excavation, class 2	0.75	0.60	0.50
100 cu. yd. excavation, class 3	1.00	1.25	1.00
1,375 cu. yd. concrete	18.00	18.00	15.00
114,000 lb. plac. reinf. steel	0.015	0.015	0.02
6,000 lb. plac. struc. steel	0.02	0.02	0.03
2 bridges, erect. sup. bridges	400.00	475.00	425.00
2 gates, instl. gates compl	25.00	60.00	60.00
2,300 sq. yd. 12-in. grouted paving	3.00	3.00	3.50
3,800 cu. yd. backfill	0.25	0.25	0.30
Sch. 7			
26,800 cu. yd. excavation, class 1	0.22	0.30	0.20
100 cu. yd. excavation, class 2	0.75	0.60	0.50
100 cu. yd. excavation, class 3	1.00	1.25	1.00
1,825 cu. yd. concrete	10.75	13.25	12.00
160,000 lb. plac. reinf. steel	0.015	0.015	0.02
30,000 lb. plac. struc. steel	0.02	0.02	0.03
12 bridges, erect. sup. bridges	375.00	425.00	400.00
18 gates, instl. gates compl	15.00	45.00	50.00
2,500 sq. yd. 12-in. grouted paving	2.25	3.00	2.50
10,000 cu. yd. backfill	0.25	0.30	0.25

Brooklyn, N. Y.—Only bid opened Mar. 22, by Park Bd., for dredging and depositing sand, gravel, etc., in Dyker Beach Park was that of Atlantic Gulf & Pacific Co., 13 Park Row, New York City, at $256,000, for 640,000 cu. yd., unit price, $0.40.

New York, N. Y.—Following bid opened Mar. 27 by R. A. C. Smith, comr. of docks, Pier A, Battery Pl., for furnishing labor and material for dredging: Class 1, about 110,000 cu. yd., North River; Class 2, about 20,000 cu. yd. East and Harlem rivers, Boros. Manhattan, Bronx, Brooklyn, Queens and Richmond: Coastwise Dredging Co., 17 Battery Pl., at 29 cts., Class 1, and 98 cts., Class 2; price given per cu. yd.

Morganfield, Ky.—Following are bids opened Mar. 22 by Bd. Drainage Comrs. for constructing H. A. Roberts public ditch, in all about 225,000 cu. yd.—(a) main ditch, 40,000 cu. yd., (b) lateral ditches and 80 yd. of (c) clearing: Fred. C. Morgan, Indianapolis, Ind. (a) 12 cts., (b) 15 cts., (c) $20; J. Foohey & Co., Ft. Wayne, Ind. (a) 12½ cts., (b) 15½ cts., (c) $30; F. E. Kersey, Owensboro, Ky. (a) 13.4 cts., (b) 17 cts., (c) $25; J. A. Roberts, Ashland, O., (a) 13½ cts., (b) 20 cts., (c) $4. Prices given per cu. yd. and per acre. Norman R. Orcutt, ch. engr., Morganfield.

★**Allegan, Mich.**—Contract awarded by county, to A. Ipe, Nappanee, at $11,000 for dredging work.

★**Mason City, Ia.**—Contract awarded Joe Cannon, Clear Lake, at $13,226, for improvements to Drainage Dist. No. 50, Mt. Vernon Twp.; bids on Dist. No. 49 rejected.

★**Ada, Minn.**—Contract awarded by D. E. Fulton, co. aud. (bids opened Mar. 8) to D. A. Foley & Co., Aidkin, at $9.70 per cu. yd. for constructing Judicial Ditch No. 54, involving 243,651 cu. yds. excav.

★**Benson, Minn.**—Following are four lowest bids opened Mar. 19 by D. P. Carney, co. aud., for constructing County Ditch No. 14, including 196,726 cu. yd. excav.: W. J. Gleason Co., Aitkin, Minn., 15.45 cts. (awarded contract); Frederich & Barnard, Minneapolis, 15.50 cts.; Northern Minn. Drainage Co., Duluth, 15.55 cts.; The Construction Co., Duluth, 15.75 cts. N. A. Arne, Benson, awarded contract for three wooden bridges included in work at $1,725. Tile and labor bids at estimated cost of $40,000 were rejected.

★**Elk River, Minn.**—Contract awarded by county to C. T. Lount Co., Winthrop, at $41,273 for Judicial Ditch No. 1, Sherburne and Anoka Counties.

★**Buckner, Mo.**—Contract awarded by C. A. Winfrey, secy., Ft. Osage Drainage Dist. (bids opened Mar. 14) to Fred M. Crane Co., Omaha, Neb., at 9.4 cts. per cu. yd. for 363,000 yd. main ditch and 54,100 yd. laterals.

★**Wynne, Ark.**—Contract awarded to Southern Drainage Co., Paragould, at .0899 ct. (bids opened Mar. 21) for constructing drainage ditches for Brushy Lake Bayou Drain. Dist. No. 1, in all about 862,000 cu. yd. excav. Newson Eng. Co., Wynne, Ark., engrs.

TUNNELS AND SUBWAYS

BIDS DESIRED

Boston, Mass.—Until Apr. 4 by Trustees of City Hospital (John J. Dowling, supt.) for constructing underground tunnel at the hospital; Joseph McGinniss, 16 Arlington St., Boston, archt.

MISCELLANEOUS

PROPOSED WORK

Shipways—Quincy, Mass.—Fore River Shipbuilding Co., Quincy, contemplates constructing new set of 1000-ft. shipways at its plant; cost $1,500,000.

Transmission Line—Waterbury, Conn.—United Electric Light & Water Co., Waterbury, applied to State Legislature for permission to increase its capitalization to $3,000,000 and contemplates extending its high-tension transmission lines to New Britain and Berlin.

Playground—East Hampton, L. I., N. Y.—East Hampton Neighborhood Assoc. purchased site at $18,000 to be used as village playground.

Playground—Homewood, Pa.—Resolution adopted by City Council appropriating $100,000 for playgrounds for the Homewood-Brushton community. Address Bd. of Trade.

Park—Johnstown, Pa.—City contemplates constructing park of 50 acres in Constable Hollow.

Transmission Line—Norton, Va.—Reported Appalachian Power Co., Bluefield, W. Va., contemplates constructing power transmission lines between Norton and Esserville, Wise and 7 other towns.

Parks—Cleveland, O.—Plans completed for improvements to park and playgrounds for coming year; expenditure about $271,000. Alex. Bernstein, dir. pub. serv. comn.

Transmission Line—Dayton, O.—Dayton Power & Light Co. granted franchise to erect electric transmission lines off the Troy Pike to supply electricity for lighting purposes.

Incinerator—Ft. Worth, Tex.—Contract will soon be let for constructing $10,000 incinerating plant.

Park—Sherman, Tex.—City voted $50,000 bonds for park and auditorium. T. W. Cole, mayor.

Transmission Line—Pueblo, Col.—Arkansas Valley Railway Light & Power Co., Pueblo, contemplates extension of electric transmission line from Avondale to Boone and thence to the ranch of the Thatcher Cattle Co., 11 miles long, where electricity will be furnished for a 400-acre irrigation project.

Transmission Line—Ephrata, Wash.—Nelson lighting system contemplates enlarging transmission lines to Soap Lake; cost $10,000.

Transmission Line—North Yakima, Wash.—Comrs. Yakima Co. granted Pacific Power & Light Co. franchise to erect electric transmission lines on 7 miles of county roads for period of 50 years.

Transmission Line—Tacoma, Wash.—Tacoma Ry. & Power Co. granted franchise to erect electric transmission lines from the Pierce County line to the A. L. Brown farm, near Nisqually to serve farmers in district.

Swimming Pool — Modesto, Cal. — See "Waterworks and Sewerage System."

Park—Santa Rosa, Cal.—Supervisors voted to purchase Armstrong Grove at $80,000 for county park.

BIDS DESIRED

Portland Cement—Portland, Me.—Until April 23, by U. S. Engr. office for furnishing Portland Cement, concrete, sand, etc.; advertised in this issue.

Cement—Richvale, Cal.—Reported desired until Apr. 10, by Drain. Dist. No. 100, for furnishing 2000 bbls. cement and 2000 cu. yd. broken stone or gravel and 700 cu. yd. of concrete culverts.

PRICES AND LETTINGS

★*Indicates award of contract.*

Piling—Flint, Mich.—Lowest bid opened for pile construction on the Leith St. subway was that of Hagerdorn Contr. Co., Indianapolis, at $58,913.

Proposals

For Proposals Advertised See Pages 59, 60, 61 and 62

WATER WORKS AND SEWERAGE SYSTEMS

Bids Close.		See Eng. Record.
Apr. 3.	Covina, Cal.	Mar. 17
Apr. 3.	Scottsbluff, Neb. Adv. Mar. 17.	Mar. 17
Apr. 3.	Terry, Mont.	Mar. 31
Apr. 4.	Long Island City, L. I., N. Y.	Mar. 31
Apr. 6.	Chicago, Ill.	Mar. 31
Apr. 5.	Clifton Heights, Pa.	Mar. 24
Apr. 5.	New York, N. Y.	Mar. 31
Apr. 5.	Redrock, Okla.	Mar. 31
Apr. 6.	Erie, Pa. Adv. Mar. 24, 31.	Mar. 24
Apr. 6.	Highland Park, Ill.	Mar. 24
Apr. 7.	San Francisco, Cal.	Mar. 24

Bids Close.		See Eng. Record.
Apr. 9.	Clear Lake, S. D.	Mar. 10
Apr. 9.	Washington, D. C. Adv. Mar. 31.	Mar. 31
Apr. 9.	New Orleans, La.	Mar. 31
Apr. 9.	Cooperstown, N. D.	Mar. 31
Apr. 9.	New York, N. Y.	Mar. 31
Apr. 10.	Greenwood, O. Adv. Mar. 24.	Mar. 24
Apr. 10.	Omaha, Neb.	Mar. 24
Apr. 10.	Philadelphia, Pa. Adv. Mar. 24, 31.	Mar. 24
Apr. 10.	Milan, Mo.	Mar. 24
Apr. 10.	Johnstown, Pa. Adv. Mar. 31.	Mar. 31
Apr. 10.	Cairo, Ga.	Mar. 31
Apr. 10.	Upper Darby, Pa.	Mar. 31
Apr. 10.	Indianola, Ia. Adv. Mar. 31.	Mar. 31
Apr. 13.	Astoria, Ore.	Mar. 17
Apr. 13.	Wauston, Wis.	Mar. 17
Apr. 16.	Winnipeg, Man. Adv. Mar. 24, 31.	Mar. 24
Apr. 18.	Akron, Ohio. Adv. Mar. 24.	Mar. 24
Apr. 20.	Beaufort, N. C. Adv. Mar. 31.	Mar. 31
Apr. 25.	West Chester, Pa.	Mar. 31
Apr. 27.	Alliance, O.	Mar. 24
May 1.	Monaca, Pa.	Mar. 17
	Granite City, Ill. Adv. Mar. 10 to 24.	Mar. 10

STRUCTURAL STEEL WORK

Apr. 3.	Brookeville, Ky.	Mar. 17
Apr. 3.	Sisseston, S. D.	Mar. 17
Apr. 3.	Britton, N. D.	Mar. 10
Apr. 3.	Ft. Sill, Okla. Adv. Mar. 24, 31.	Mar. 24
Apr. 3.	Sibley, O.	Mar 24
Apr. 3.	Walker, Minn. Adv. Mar. 24, 31.	Mar. 24
Apr. 3.	Winamac, Ind.	Mar. 31
Apr. 3.	Shelbyville, Ind.	Mar. 31
Apr. 3.	Devils Lake, N. D.	Mar. 31
Apr. 3.	Waterloo, Ia.	Mar. 31
Apr. 4.	Freehold, N. J.	Mar. 24
Apr. 4.	Macedonia, Ia.	Mar. 24
Apr. 4.	Elizabeth, N. J.	Mar. 24
Apr. 4.	Bluffton, Ind.	Mar. 31
Apr. 4.	The Dallas, Ore.	Mar. 31
Apr. 4.	Owensboro, Ky.	Mar. 31
Apr. 5.	Franklin, Ky.	Mar. 31
Apr. 7.	Tiffin, O.	Mar. 24
Apr. 10.	Buffalo, Minn.	Mar. 24
Apr. 10.	Hampton, Ia.	Mar. 31
Apr. 11.	Illinois	Mar. 31
Apr. 16.	Coalinga, Cal.	Mar. 31
May 1.	Dowington, Pa.	Mar. 31

REINFORCED CONCRETE

Apr. 4.	Passaic, N. J.	Mar. 31
Apr. 4.	Bloomfield, Ia.	Mar. 31
Apr. 5.	Elkdar, Ia.	Mar. 24
Apr. 7.	Pine Bluff, Ark.	Mar. 17
Apr. 10.	Rock Rapids, Ia.	Mar. 31
Apr. 10.	Huntington, Ind.	Mar. 31
Apr. 12.	Waco, Tex.	Mar. 31
Apr. 14.	Peyton, Ga. Adv. Mar. 24, 31.	Mar. 24
Apr. 15.	Miami, Fla.	Mar. 31
Apr. 16.	Washington, D. C. Adv. Mar. 17.	Mar. 17
Apr. 17.	Lansing, Mich. Adv. Mar. 17, 24.	Mar. 17
Apr. 20.	Fleming, Ky.	Mar. 31
Apr. 21.	Winnipeg, Man.	Mar. 24
Apr. 24.	Hellier, Ky.	Mar. 31
May 4.	Clifton, Ariz. Adv. Mar. 31.	Mar. 31

ROADS AND PAVING

Apr. 3.	Madisonville, Wis.	Jan. 27
Apr. 3.	West Orange, N. J.	Mar. 17
Apr. 3.	Indiana	Mar. 17
Apr. 3.	Hamlet, N. C.	Mar. 24
Apr. 3.	Greenville, Miss.	Mar. 24
Apr. 3.	Sioux City, Ia.	Mar. 24
Apr. 3.	Barbourville, Ky.	Mar. 24
Apr. 3.	Oswego, N. Y. Adv. Mar. 24.	Mar. 24
Apr. 3.	St. Cloud, Minn.	Mar. 31
Apr. 3.	Lake Charles, La.	Mar. 31
Apr. 3.	Charleston, S. C.	Mar. 31
Apr. 3.	Toledo, O.	Mar. 31
Apr. 3.	Bellevue, Pa.	Mar. 31
Apr. 3.	Jersey City, N. J.	Mar. 31
Apr. 3.	Yadkinville, N. C.	Mar. 31
Apr. 3.	St. George, S. I., N. Y.	Mar. 31
Apr. 3.	Boston, Mass.	Mar. 31
Apr. 4.	Avoca, Ia.	Mar. 24
Apr. 4.	South Bend, Wash.	Mar. 4
Apr. 4.	Palatka, Fla.	Mar. 24
Apr. 4.	Sibley, Ia.	Mar. 24
Apr. 4.	Cleveland, O.	Mar. 24
Apr. 4.	Marshall, Mich. Adv. Mar. 24, 31.	Mar. 24
Apr. 4.	Riverside, Cal.	Mar. 31
Apr. 4.	Meridian, Miss.	Mar. 31
Apr. 4.	Brooklyn, N. Y.	Mar. 31
Apr. 4.	Emmetsburg, Ia.	Mar. 31
Apr. 4.	Beaumont, Cal.	Mar. 31
Apr. 4.	Eureka Springs, Ark.	Mar. 31
Apr. 4.	Clifton, Ky.	Mar. 31
Apr. 4.	Brookhaven, Miss.	Mar. 31
Apr. 5.	Plymouth, Ind.	Mar. 17
Apr. 5.	Mahonoy City, Pa.	Mar. 24
Apr. 5.	Poughkeepsie, N. Y. Adv. Mar. 24.	Mar. 24
Apr. 5.	Washington, D. C. Adv. Mar. 31.	Mar. 31
Apr. 5.	Brooklyn, N. Y.	Mar. 31
Apr. 5.	Santa Barbara, Cal.	Mar. 31
Apr. 5.	New York, N. Y.	Mar. 31
Apr. 5.	Philadelphia, Pa.	Mar. 31
Apr. 5.	Centerville, Mich.	Mar. 31
Apr. 5.	Marietta, Ga.	Mar. 31
Apr. 5.	Dubuque, Ia.	Mar. 31
Apr. 6.	Cincinnati, O.	Mar. 24
Apr. 6.	Albany, N. Y. Adv. Mar. 24, 31.	Mar. 24
Apr. 6.	Smithfield, N. C. Adv. Mar. 24.	Mar. 24
Apr. 6.	St. Louis, Mo.	Mar. 31
Apr. 6.	Jerome, Ariz.	Mar. 31
Apr. 6.	Griswold, Ia.	Mar. 31
Apr. 6.	Middleton, Tenn.	Mar. 31
Apr. 7.	Layton, N. J. Adv. Mar. 17, 24.	Mar. 17
Apr. 7.	Indiana	Mar. 31
Apr. 7.	Macomb, Ill. Adv. Mar. 31.	Mar. 31
Apr. 9.	Plainfield, N. J. Adv. Mar. 17, 24.	Mar. 17
Apr. 9.	Apollo, Pa. Adv. Mar. 17.	Mar. 17
Apr. 9.	Malaga, N. J.	Mar. 24
Apr. 9.	Albany, N. Y. Adv. Mar. 24, 31.	Mar. 24
Apr. 9.	Lancaster, Cal.	Mar. 31
Apr. 9.	Terre Haute, Ind.	Mar. 31
Apr. 9.	Tampa, Fla.	Mar. 31
Apr. 9.	New York, N. Y.	Mar. 31
Apr. 10.	New York, N. Y. Adv. Mar. 24.	Mar. 24
Apr. 10.	Greensburg, Pa.	Mar. 24
Apr. 10.	Eureka, Cal.	Mar. 31
Apr. 10.	Redwood Falls, Minn.	Mar. 31
Apr. 10.	San Diego, Cal.	Mar. 31
Apr. 11.	Albany, N. Y. Adv. Mar. 24, 31.	Mar. 24
Apr. 11.	Trenton, N. J.	Mar. 31
Apr. 11.	Greenwich, Conn. Adv. Mar. 31.	Mar. 31
Apr. 12.	Whitesburg, Ky.	Mar. 17
Apr. 12.	Greenville, Miss. Adv. Mar. 17 to 31.	Mar. 17
Apr. 12.	Seal Beach, Cal.	Mar. 4
Apr. 12.	Newark, N. J.	Mar. 24
Apr. 12.	Tacoma, Wash.	Mar. 31
Apr. 12.	Indiana	Mar. 31
Apr. 13.	Albany, N. Y. Adv. Mar. 24, 31.	Mar. 24
Apr. 13.	Columbus, O.	Mar. 31
Apr. 14.	Ann Arbor, Mich. Adv. Mar. 31.	Mar. 31
Apr. 14.	Indiana	Mar. 31
Apr. 15.	Bayonne, N. J.	Mar. 24
Apr. 15.	Clearfield, Pa.	Mar. 24
Apr. 16.	Newport, Vt.	Mar. 24
Apr. 16.	Fairmont, W. Va. Adv. Mar. 24, 31.	Mar. 24
Apr. 16.	Celina, O.	Mar. 31
Apr. 16.	Woodsfield, O.	Mar. 31
Apr. 21.	Morris, Minn.	Mar. 31
Apr. 23.	South Bethlehem, Pa. Adv. Mar. 31.	Mar. 31
Apr 25.	Fairmont, W. Va. Adv. Mar. 24, 31.	Mar. 24
Apr. 25.	Pikeville, Ky.	Mar. 31
Apr. 27.	Fairmont, W. Va. Adv. Mar. 24, 31.	Mar. 24
May 7.	Hattiesburg, Miss.	Mar. 31

INDUSTRIAL PLANTS AND WAREHOUSES

Apr. 9.	Washington, D. C.	Mar. 31
Apr. 15.	Philadelphia, Pa.	Mar. 31
Apr. 22.	Marlboro, Mass.	Mar. 24
Apr. 23.	Keyport, Wash.	Mar. 31

BUILDINGS
Public and Private

Apr. 2.	Syracuse, N. Y. Adv. Mar. 17 to 31.	Mar. 17
Apr. 3.	Greenville, S. C.	Mar. 10
Apr. 3.	Wooster, Ohio.	Mar. 10
Apr. 3.	Turtle Creek, Pa.	Mar. 24
Apr. 3.	Knox, Ind.	Mar. 24
Apr. 3.	Denton, Tex.	Mar. 31
Apr. 4.	Chariton, Ia.	Mar. 10
Apr. 5.	Beltrami, Minn.	Mar. 24
Apr. 6.	Clara City, Minn.	Mar. 24
Apr. 6.	New Vienna, O.	Mar. 24
Apr. 6.	Rocky River, O.	Mar. 17
Apr. 6.	Boston, Mass.	Mar. 31
Apr. 7.	Trenton, N. J.	Mar. 24
Apr. 9.	Alexandria, La.	Mar. 10
Apr. 9.	New York, N. Y.	Mar. 31
Apr. 10.	Sullivan, Ind.	Feb. 24
Apr. 10.	Ft. Wayne, Ind.	Mar. 17
Apr. 10.	Cameron, Tex.	Mar. 10
Apr. 10.	Sullivan, Ind.	Mar. 17
Apr. 10.	Newark, O.	Mar. 24
Apr. 10.	Gainesville, Fla.	Mar. 31
Apr. 10.	Fisher, Minn.	Mar. 31
Apr. 11.	Lancaster, S. C. Adv. Mar. 10, 17.	Mar. 10
Apr. 11.	Michigan City, Ind.	Mar. 31
Apr. 11.	Ottawa, Ont.	Mar. 31
Apr. 12	Wahoo, Neb. Adv. Mar. 10, Mar. 17.	Mar. 10
Apr. 12.	Decatur, Ga.	Mar. 31
Apr. 13.	Troy, N. Y. Adv. Mar. 17, 24.	Mar. 17
Apr. 14.	Burlington, Wis.	Mar. 10
Apr. 14.	Lubbock, Tex.	Mar. 31
Apr. 14.	Mandan, N. D.	Mar. 31
Apr. 15.	Lauzon, Que.	Mar. 24
Apr. 15.	Modesto, Cal.	Mar. 31
Apr. 15.	Peoria, Ill.	Mar. 31
Apr. 15.	Easton, Pa.	Mar. 31
Apr. 16.	Chester, Pa.	Mar. 17
Apr. 16.	Bowling Green, Mo.	Mar. 24
Apr. 16.	Cincinnati, O.	Mar. 31
Apr. 17.	Des Moines, Ia.	Mar. 31
Apr. 17.	Whitesburg, Ky.	Mar. 31
Apr. 17.	Ivanhoe, Minn.	Mar. 31
Apr. 18.	East Orange, N. J.	Mar. 17
Apr. 18.	Chisholm, Minn.	Mar. 31
Apr. 18.	St. Johns, Ariz.	Mar. 31
Apr. 20.	Las Cruces, N. M.	Mar. 24
Apr. 23.	Berlin, N. H.	Mar. 24
Apr. 23.	Breckenridge, Minn.	Mar. 31
Apr. 25.	Cincinnati, O.	Mar. 31
Apr. 26.	Fremont, Ohio.	Mar. 10
Apr. 27.	Portland, Me.	Mar. 31
May. 1.	Minneapolis, Minn.	Nov. 25
May 1.	Commerce, Tex.	Mar. 31
May 4.	Chattanooga, Tenn. Adv. Mar. 31.	Mar. 31
May 15.	Columbia, S. C.	Mar. 31

FOUNDATIONS, PIERS AND DAMS

Apr. 5.	Cincinnati, O.	Mar. 31
Apr. 9.	Kansas City, Mo. Adv. Mar. 17, 24.	Mar. 17
Apr. 9.	St. Louis, Mo.	Mar. 31
Apr. 10.	Rochester, N. Y.	Mar. 24
Apr. 18.	Lebanon, Pa. Adv. Mar. 31.	Mar. 31
Apr. 20.	Rosedale, Kan.	Mar. 17
Apr. 23.	Newport Beach, Cal. Adv. Mar. 24.	Mar. 24
Apr. 25.	Little Rock, Ark. Adv. Mar. 31.	Mar. 31

TUNNELS AND SUBWAYS

Apr. 3.	Philadelphia, Pa. Adv. Mar. 10, Mar. 17.	Mar. 10
Apr. 4.	Boston, Mass.	Mar. 31

EXCAVATION, DREDGING AND DRAINAGE

Apr. 4.	New York, N. Y.	Mar. 31
Apr. 4.	Winterset, Ia.	Mar. 31
Apr. 5.	Sallisaw, Okla.	Mar. 17
Apr. 5.	St. Ignatius, Mont.	Mar. 10
Apr. 5.	Clarksdale, Miss.	Mar. 24
Apr. 5.	Marks, Miss.	Mar. 31
Apr. 5.	Calexico, Cal.	Mar. 31
Apr. 5.	Bluffton, Ind.	Mar. 31
Apr. 6.	Warren, Minn.	Mar. 31
Apr. 6.	Clear Lake, S. D.	Mar. 31
Apr. 7.	Carrollton, Ill.	Mar. 31
Apr. 12.	Woonsocket, S. D.	Mar. 31
Apr. 14.	Savannah, Ga. Adv. Mar. 17, 31.	Mar. 17
Apr. 18.	Boston, Mass. Adv. Mar. 24, 31.	Mar. 24
Apr. 18.	Powell, Wyo. Adv. Mar. 24.	Mar. 24
Apr. 23.	Newport Beach, Cal.	Mar. 24
Apr. 25.	Malta, Mont. Adv. Mar. 24.	Mar. 24
May 1.	Quincy, Ill. Adv. Mar. 24, 31.	Mar. 24.

MISCELLANEOUS

Apr. 4.	Excavators—Denver, Col.	Mar. 10
Apr. 9.	Coal—Albany, N. Y. Adv. Mar. 17 to 31.	Mar. 17
Apr. 9.	Cranes, Washington, D. C. Adv. Mar. 10, 24.	Mar. 17
Apr. 9.	Crane, Charleston, S. C.	Mar. 24
Apr. 9.	Garbage Disposal, East Orange, N. J.	Mar. 24
Apr. 10.	Guard Rail, New York, N. Y. Adv. Mar. 24.	Mar. 24
Apr. 10.	Cement, Etc., Richvale, Cal.	Mar. 31
Apr. 16.	Riprap, Detroit, Mich. Adv. Mar. 10 to 31.	Mar. 10
Apr. 18.	Pumping Machinery, Yuma, Ariz.	Mar. 24
Apr. 23.	Portland Cement, Portland, Me. Adv. Mar. 31.	Mar. 31

March 31, 1917

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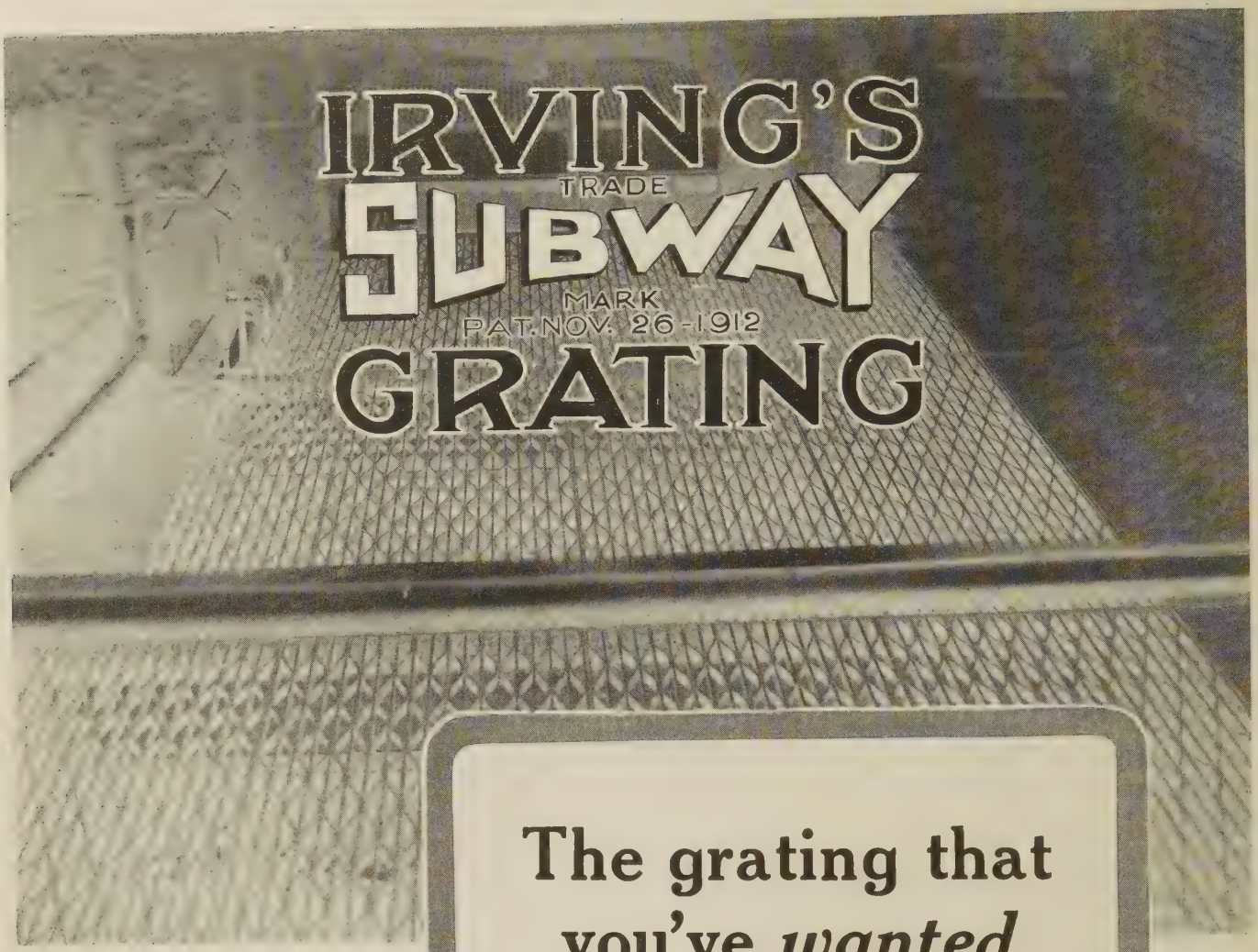
APR 2 1917

Engineering Record

McGraw-Hill Publishing Company, Inc.

Loading a Coach at Seattle for Alaska's Railways



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is ready for you at last—a *real* grating! There are innumerable places calling for a well designed grating—a grating that will *bear all sorts of loads and strains*—a grating designed along *real* engineering lines. For instance, power house floors and galleries; pump platforms; turbine pits; pipe trenches; sump covers; *reinforcement of top surface of concrete floors;* sidewalks; stair-treads. There is a type of IRVING'S SUBWAY GRATING to meet every need. This is the grating used in huge quantities by the N. Y. and Boston subways. This is the grating with the *Truss Element,* which engineers will appreciate. This is the grating that's *less expensive* than other gratings of the *same weight.* Any width—any length and depth for any load and span. *Write today for Catalog No. A1H and find the type that will just fill your needs.*

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LONG ISLAND CITY, NEW YORK

Non-slipping
Very strong
Not heavy
Ventilates
Lets in light
Never rattles
Holds most tools
Beats bump plates

Engineering Record

New York, March 31, 1917

Volume 75, No. 13 Pages 489-526

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Columbia River Jetty Rapidly Nearing Completion 492

By W. P. Hardesty.

North Enrockment will complete control work, eliminating huge shifting bar at a total cost of over $14,000,000.

Engineering Record, March 31, 1917. 5⅛ Cols. Ill.

Railway Engineers Compare Timber and Concrete Trestles 494

Committee Recommendations on this and other subjects accepted at eighteenth annual convention of American Railway Engineering Association summarized.

Engineering Record, March 31, 1917. 1½ Cols.

New Stump for Logged-Off Lands Requires No Blower 495

By Le Roy W. Allison.

Is Easily Put Together or moved, and with little attention will dispose of a large stump in from 24 to 40 hours.

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Reclaim Alkali Land by Simultaneous Flooding and Draining 496

Abandoned 150-Acre Tract in California is made to produce crops after irrigating to remove alkali salts.

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Adobe Dam in Philippines Dewatered and Leaks Repaired 497

Irrigating System threatened and dam rendered unsafe—Work carried out by bureau of public works.

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Cost of Engineering an Extensive County Road System 498

By William C. Davidson.

On Work Totalling $1,075,000 and covering 178 miles of construction, engineering cost is 4.58 per cent.

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State Road Legislation Reviewed by American Highway Association 500

Complete Study of subjects which should be considered in laws relating to state highway departments.

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Experiment with Groins at Santa Monica Beach Successful 501

How This Beach was flattened and improved. Elements that govern success of groins discussed.

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Save Shop Costs and Insure Economy by Proper Design Details 503

Advantages in uniformity of sections and duplication of details set forth in discussion before Engineers Society of Western Pennsylvania.

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Calls Hydrogen in Oxyacetylene Tanks Dangerous 504

Fatal Explosions in California lead to investigations. Resulting report condemns oxygen tanks with more than 2 per cent of hydrogen.

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Twin 100,000-Gallon Tanks Designed with Spherical Bottoms 505

Atlanta Warehouse Company cotton warehouses covering 40 acres have sprinkler system supplied by high reinforced-concrete tanks designed with spherical bottoms.

Punched Steel plates used at construction joints.

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Engineers Finding New Field of Activity 506

Abstract of Prize Paper on "Engineering and Civic Progress" points to increased appreciation of engineers' worth.

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Face of Concrete Dam Imitates Stratified Sandstone 508

Strips of Muslin laid along face of work and backed by loose sand or clay give the special finish desired to harmonize with the site.

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Effects of Exposure on Tar Products Reported by Federal Chemists 509

Charles S. Reeve, chemist, and Benjamin A. Anderton, assistant chemist, U. S. Office of Public Roads and Rural Engineering, show that the usual laboratory tests are faulty as an index of performance.

Engineering Record, March 31, 1917. 2½ Cols.

Drive Small Cofferdams 40 Feet Deep in 6 Hours Each 510

Piles Set around revolving mast used to support steam hammer. Jets excavate foundation wells for Buffalo power plant in 2 hours each.

Engineering Record, March 31, 1917. 2⅔ Cols. Ill.

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Havemeyer Bars—"Every Pound Pulls"

At this time of the year —with Spring coming along fast— you need more than ever

HAVEMEYER BAR SERVICE

which means Delivery Insurance of your reinforcing bars

HAVEMEYER BARS plus HAVEMEYER BAR SERVICE give the contractor the right bar at the right time.

Delays cost you money—HAVEMEYER BAR SERVICE saves you money.

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HAVEMEYER BARS shipped from our warehouse nearest to your work will minimize the risk of transportation delays.

Send us a list of steel required—addressing our nearest District Sales Office—tell us when you want it—we quote you accordingly

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We are furnishing Havemeyer Spirals—coiled to proper diameter—with rigid spacers—the most economical and satisfactory spiral.

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Agencies and Stocks in Principal Cities

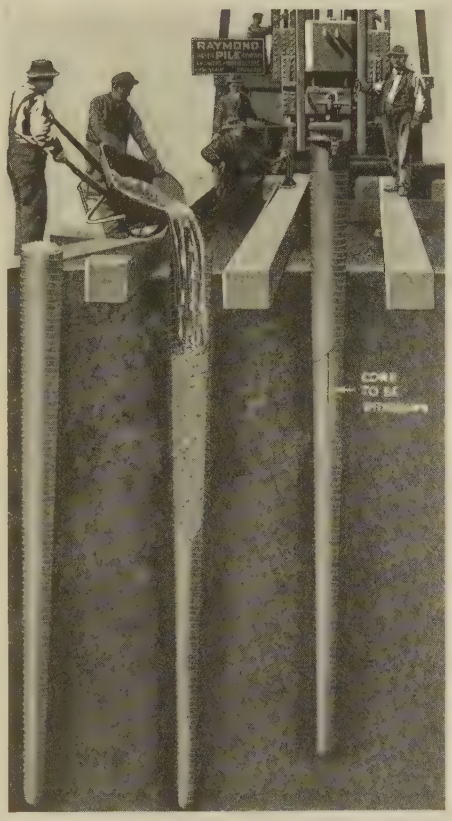
Raymond Concrete Piles

How fast can they be placed?

From 20 to 100 per 8-hour shift per machine.

The average for a 25-foot pile is ten minutes.

Study the Raymond method — it makes plain just why you get speed with safety!



The Raymond Method

1 *A collapsible mandrel or core is expanded.*

2 *This expanded core is encased in a sectional, spirally reinforced sheet steel shell.*

3 *The combined core and shell is driven to sufficient penetration. The core is then collapsed and withdrawn from the shell.*

4 *The shell — which remains in the ground — is then carefully inspected.*

5 *Concrete is now poured into the shell.*

Simple, isn't it?

Raymond Concrete Pile Company

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140 Cedar Street

Branch Offices in All Principal Cities

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111 W. Monroe Street

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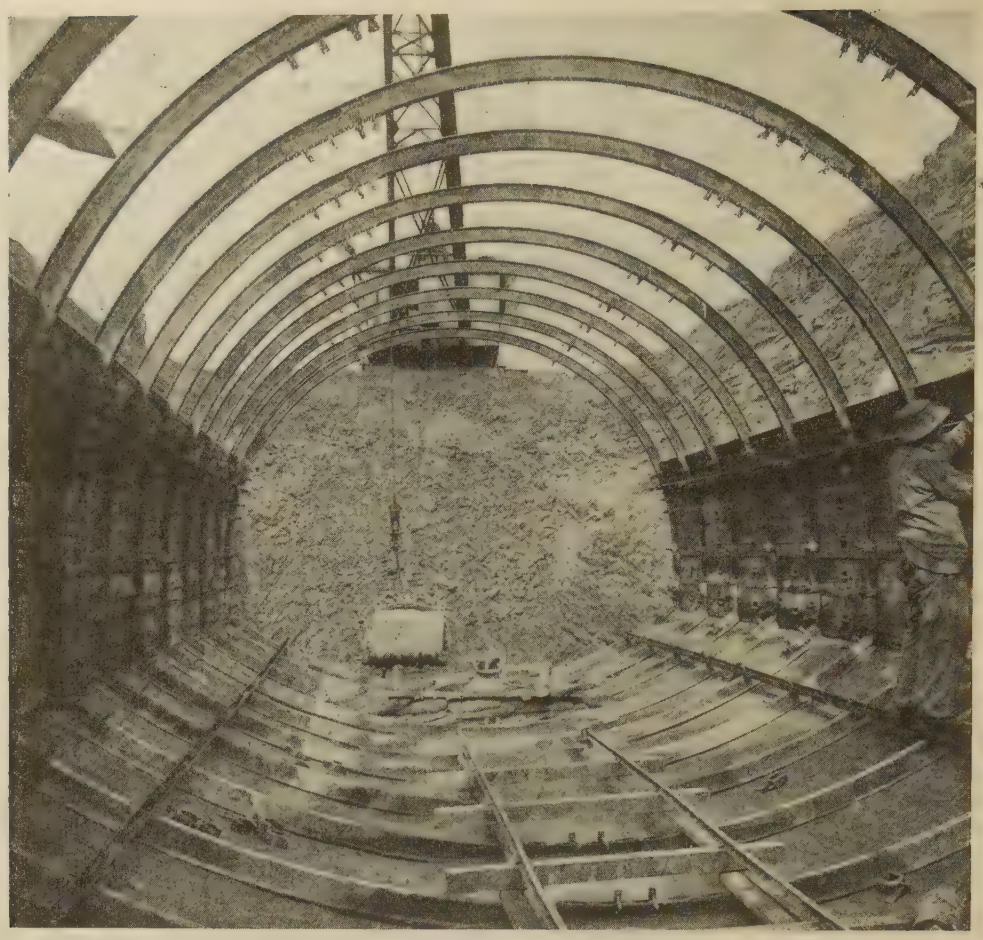
A Form for Every Pile — A Pile for every Purpose

How are they made? See Engineering Record, Nov. 25, 1916	**What do they cost?** See Engineering Record, Feb. 24, 1917	**How fast can they be placed?** See above advertisement.
How close can they be placed? See Engineering Record, Jan. 27, 1917	**What load will they carry?** See Engineering Record, Dec. 30, 1916	**What is their average length?** See Engineering Record, April 28, 1917



Rushing the Bucket!

The bucket used in this job may have been as good as advertised, but it couldn't get away from the form gang.

They were always right behind it.

Hydraulic Pressed Steel Forms always are.

If you wish to save time and money on concrete construction, get our figures on Hydraulic Pressed Steel Forms.

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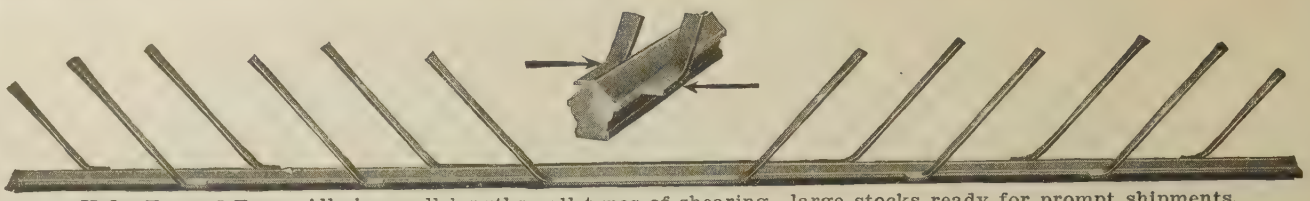

Kahn Trussed Bars. All sizes—all lengths—all types of shearing—large stocks ready for prompt shipments.

Don't Delay in Ordering Reinforcing Steel

Conditions in the steel market demand action on your part. Steel mills are overloaded with orders for long periods in advance, yet the demand for steel grows greater every day. Industries, railroads, exports, all need steel in greater quantities than before. On top of this is the serious freight situation with embargoes and long delays everywhere.

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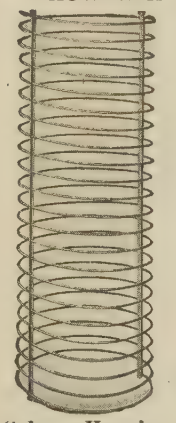

Column Hooping, Shipped flat. Diameters—9 to 30 in. Pitch—1½ to 12 in.

Just now our large stocks and excellent manufacturing facilities enable us to care for your requirements. We cannot forsee what we will be able to do later. We want to take care of both our old and new friends; so we urge you to place your orders at the earliest possible moment.

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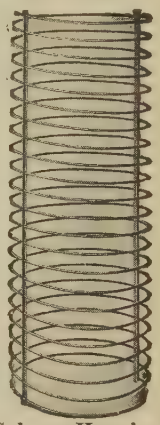
Reinforcing Steel Division

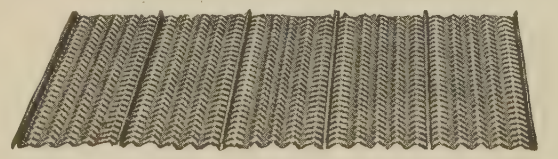
KAHN Building Products TRUSSED CONCRETE STEEL CO.

Trussed Concrete Steel Co.
Dept. G-52 **Youngstown, Ohio**
Representatives in Principal Cities

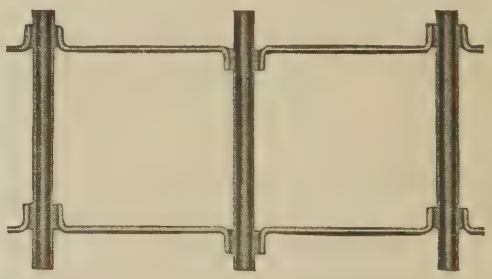
KAHN Building Products TRUSSED CONCRETE STEEL CO.



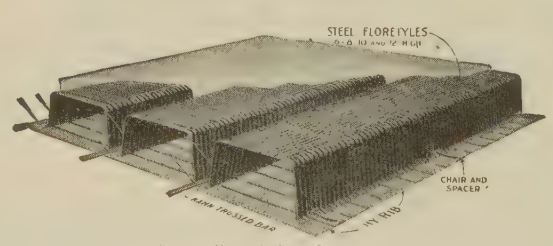
Column Hooping, Shipped flat. Diameters—9 to 30 in. Pitch—1½ to 12 in.



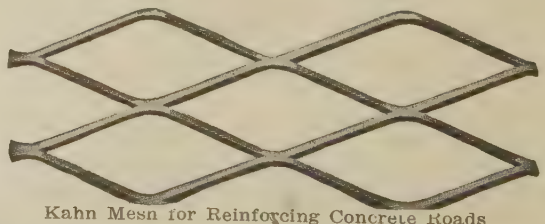
Manufactured in four depths—⅜ in., $\frac{13}{16}$ in., $\frac{13}{16}$ in., 1½ in.



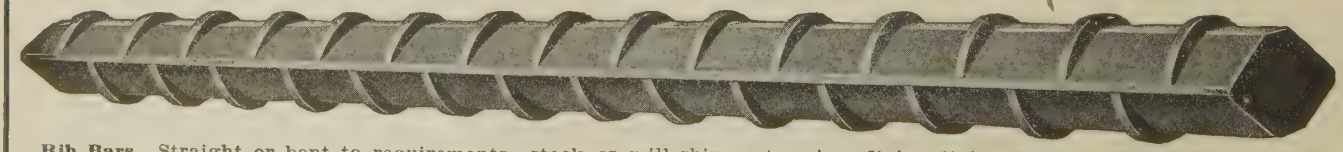
Rib Metal. Panel of nine straight bars formed from one section of steel. Size of mesh, 2-in., 3-in., 4-in., 5-in., 6-in., 7-in. and 8-in.—all lengths up to 18 ft.—furnished in flat or curved sheets.



Steel Floretyles. Specially formed, hollow metal tiles—save weight and steel in reinforced concrete—depth 6-in., 8-in., 10-in. and 12-in. Standard lengths 3 ft. and 4 ft.



Kahn Mesh for Reinforcing Concrete Roads



Rib Bars. Straight or bent to requirements—stock or mill shipments—sizes ⅜-in., ½-in., ⅝-in., ¾-in., ⅞-in., 1-in., 1⅛-in. (areas are same as either square or round bars of same sizes)—all lengths. Furnished either straight or bent.

ORDER UNITED STEEL SASH FROM STOCK

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Width of Window Openings	Size of Glass	Total Lights Wide	No. Sash Units
3'- 3"	12x18	3	1
3'- 9"	14x20	3	1
4'- 3½"	12x18	4	1
4'-11½"	14x20	4	1
5'- 4"	12x18	5	1
6'- 2"	14x20	5	1
6'- 4½"	12x18	6	1
6'- 8" to 6'- 9"	12x18	6	2
7'- 4½"	14x20	6	1
7'- 8" " 7'- 9"	14x20	6	2
8'- 9" " 8'-10"	12x18	8	2
10'- 0½" " 10'- 2½"	12x18	9	3
10'- 1" " 10'- 2"	14x20	8	2
10'-10" " 10'-11"	12x18	10	2
11'- 1" " 11'- 3"	12x18	10	3
11'- 6½" " 11'- 8½"	14x20	9	3
12'- 1½" " 12'- 3½"	12x18	11	3
12'- 6" " 12'- 7"	14x20	10	2
12'- 9" " 12'-11"	14x20	10	3
12'-11" " 13'- 0"	12x18	12	2
13'- 2" " 13'- 4"	12x18	12	3
13'- 5½" " 13'- 8½"	12x18	12	4
13'-11½" " 14'- 1½"	14x20	11	3
14'- 2½" " 14'- 4½"	12x18	13	3
14'-11" " 15'- 0"	14x20	12	2
15'- 2" " 15'- 4"	14x20	12	3
15'- 3" " 15'- 5"	12x18	14	3
15'- 5½" " 15'- 8½"	14x20	12	4
15'- 6½" " 15'- 9½"	12x18	14	4
16'- 3½" " 16'-5 ½"	12x18	15	3
16'- 4½" " 16'- 6½"	14x20	13	3
17'- 4" " 17'- 6"	12x18	16	3
17'- 7" " 17'- 9"	14x20	14	3
17'- 7½" " 17'-10½"	12x18	16	4
17'-10½" " 18'- 1½"	14x20	14	4
18'- 4½" " 18'- 6½"	12x18	17	3
18'- 9½" " 18'-11½"	14x20	15	3
19'- 5" " 19'- 7"	12x18	18	3
19'- 8½" " 19'-11½"	12x18	18	4
20'- 0" " 20'- 2"	14x20	16	3
20'- 3½" " 20'- 6½"	14x20	16	4
21'- 2½" " 21'- 4½"	14x20	17	3
21'- 9½" " 22'- 0½"	12x18	20	4
22'- 5" " 22'- 7"	14x20	18	3
22'- 8½" " 22'-11½"	14x20	18	4
23'-10½" " 24'- 1½"	12x18	22	4
25'- 1½" " 25'- 4½"	14x20	20	4
25'-11½" " 26'- 2½"	12x18	24	4
27'- 6½" " 27'- 9½"	14x20	22	4
29'-11½" " 30'- 2½"	14x20	24	4

Secure promptly the most perfect sash manufactured, directly from our large stock, eliminating all delay. Design your building to include this stock sash and the erection will be rapid and economical. We can furnish United Steel Sash in sizes to fulfill all practical building requirements at once.

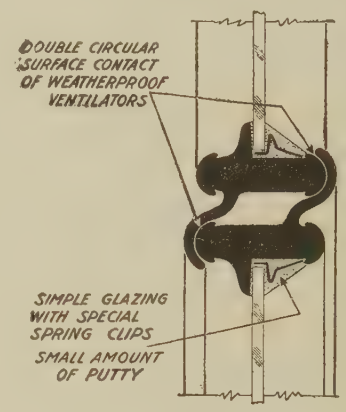
The superior workmanship, weathertightness, handsome hardware fittings and exceptional weight and strength can all be obtained by specifying United Steel Sash in stock sizes; and at the same time prompt delivery can be secured.

Consult the tables in this advertisement which show all widths and heights for the two standard sizes of glass—12 in. x 18 in. and 14 in. x 20 in. Convenience and simplicity of designing are also possible when using stock sizes of United Steel Sash.

For further information write for Stock Sash Folder.

TABLE OF HEIGHTS OF WINDOW OPENINGS

Height of Window Openings	Size of Glass	Total Lights High	No. Sash Units
3'- 2"	12x18	2	1
3'- 6"	14x20	2	1
4'- 8½"	12x18	3	1
5'- 2½"	14x20	3	1
6'- 3"	12x18	4	1
6'-11"	14x20	4	1
7'- 9½"	12x18	5	1
8'- 7½"	14x20	5	1
9'- 4"	12x18	6	1
10'- 4"	14x20	6	1

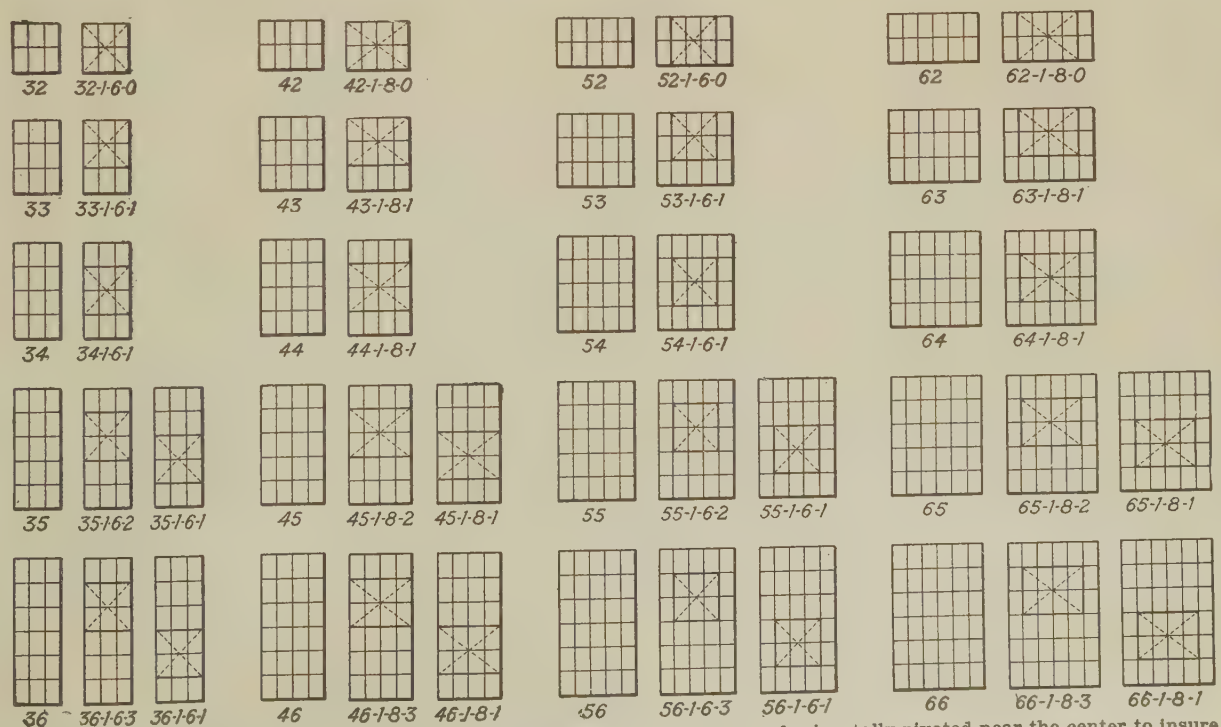


Section Around Ventilator, ½ Size.

TRUSSED CONCRETE STEEL CO.

Department S-52 Youngstown, O.

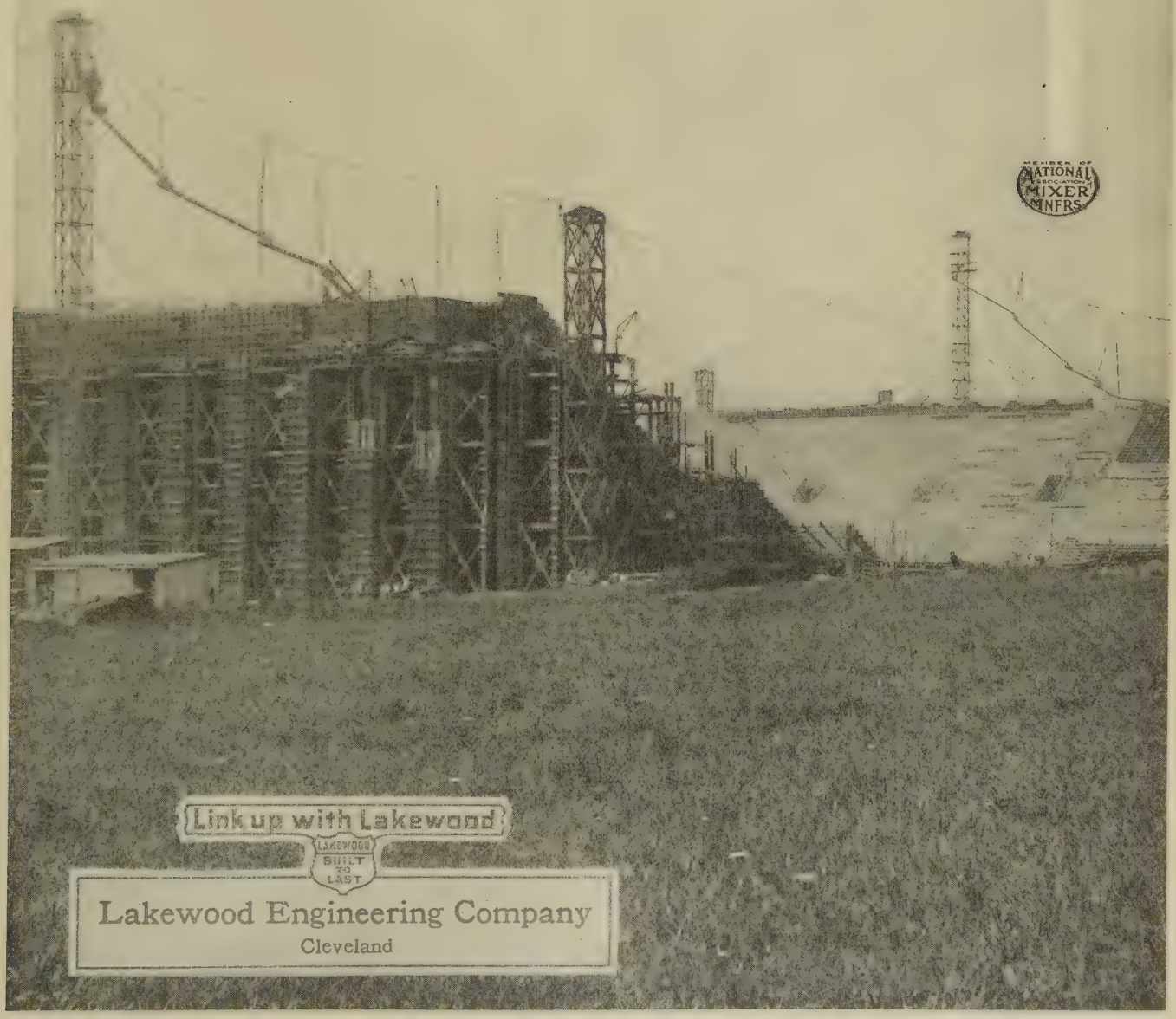
Representatives in Principal Cities



NOTE—Ventilators are denoted by cross-dashed lines. All ventilators are horizontally pivoted near the center to insure automatic closing.

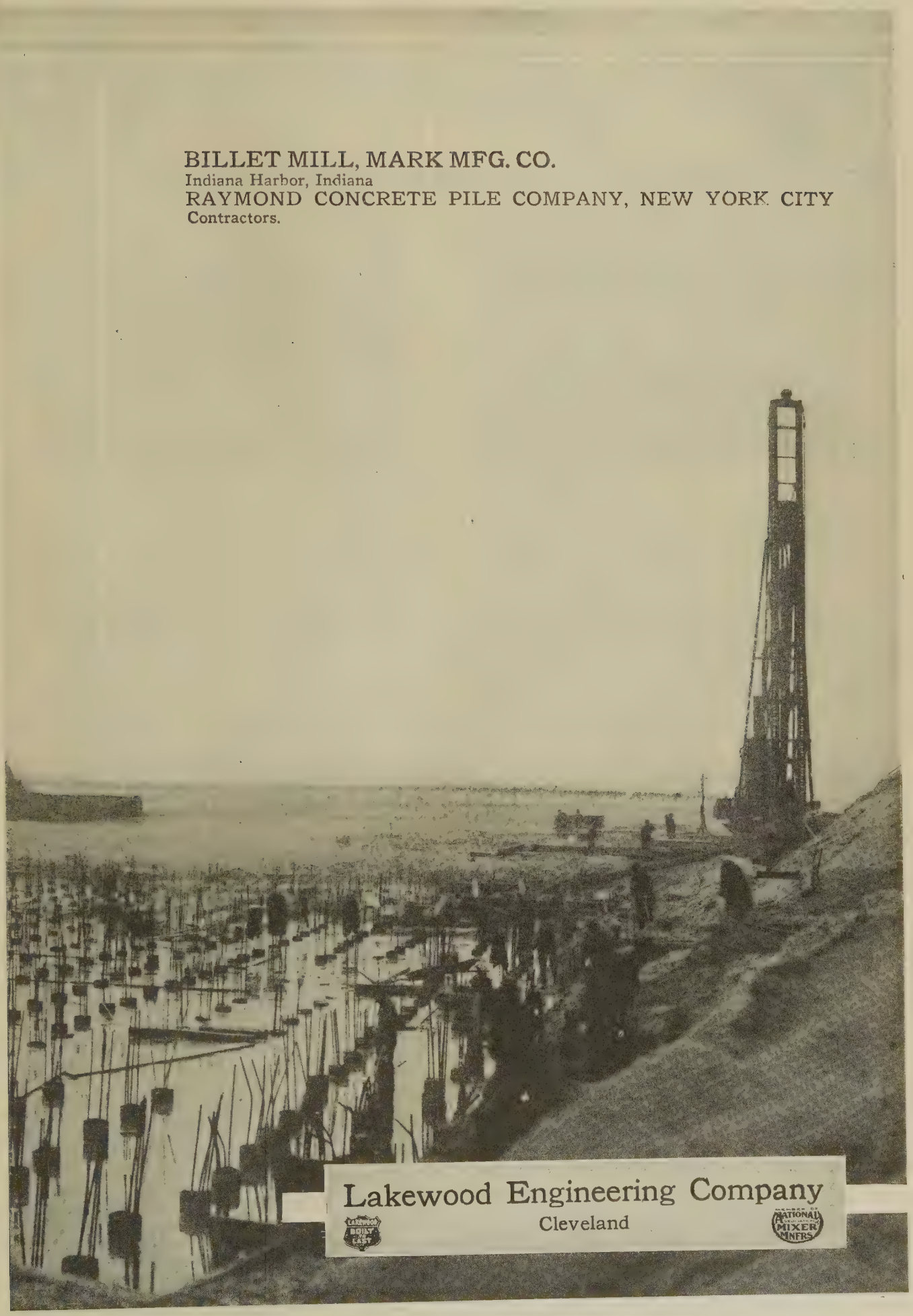
60-FT. LAKEWOOD TOWER AND CHUTE ON BARGE
Portland Viaduct, Portland, Maine.
HOLBROOK, CABOT AND ROLLINS, BOSTON
Contractors.
MEMBER OF NATIONAL ASSOCIATION MIXER MNFRS.
Link up with Lakewood
LAKEWOOD BUILT TO LAST
Lakewood Engineering Company
Cleveland

MIXING AND DISTRIBUTING PLANT
Princeton Stadium.
GEO. A. FULLER AND CO., BOSTON-NEW YORK
Contractors.



Link up with Lakewood
LAKEWOOD BUILT TO LAST
Lakewood Engineering Company
Cleveland

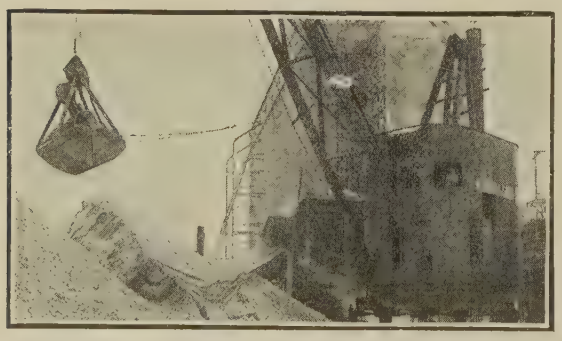
CONEY ISLAND TERMINAL, BROOKLYN RAPID TRANSIT CO.
Brooklyn
LORD CONSTRUCTION CO., NEW YORK CITY
Contractors.
Lakewood Engineering Company
Cleveland


BILLET MILL, MARK MFG. CO.
Indiana Harbor, Indiana
RAYMOND CONCRETE PILE COMPANY, NEW YORK CITY
Contractors.
Lakewood Engineering Company
Cleveland

Above, you see Blaw Type "E" Bucket built especially to handle crushed stone, clay, packed sand, gravel, etc., and to *last* while handling 'em!

Blaw Buckets

meet every requirement, for the simple reason that we build a bucket for each requirement, whether light or heavy. The new Blaw Bucket Book shows the special points of each type of bucket. It's a valuable piece of printed matter and you ought to have a copy.



Blaw Steel Forms certainly need little introduction to progressive contractors. But the point is to realize the *wide variety* of work you can handle with

Blawforms

To the man who wishes to build a great Aqueduct or just a small house or retaining wall, or even a sidewalk curb, Blawforms, backed by Blaw Engineering service, offer real and definite economies. They've been used on over 20,000 jobs. Write for the Big Blawform Book.

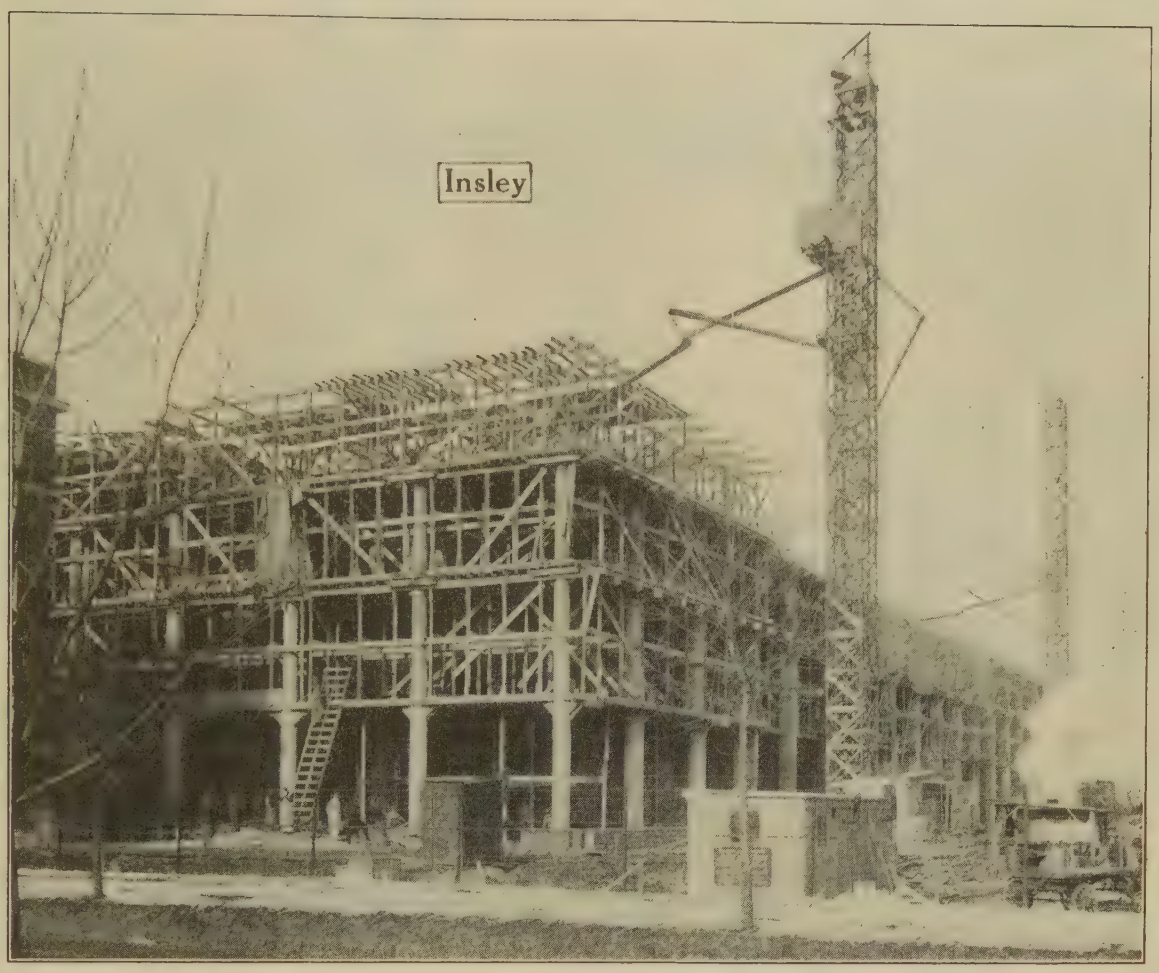
NEW YORK
165 Broadway
CHICAGO
Peoples Gas Bldg.

Blaw Steel Construction Co.

600 Farmers Bank Bldg.
PITTSBURGH, PA.

BOSTON
6 Beacon Street
SAN FRANCISCO
Rialto Bldg.

Insley Gravity Plants



Wagner Electric Bldg., St. Louis—W. M. Sutherland Bldg. & Contg. Co., St. Louis, Contractors.

Does Speed in Your Construction Work Mean Anything to You?

A Noteworthy Performance:—

The W. M. Sutherland Building & Contracting Company broke ground on November 15, 1916, for a 60 by 410 foot, five-story building for the Wagner Electric Company at St. Louis, Mo.

Seven thousand yards of concrete were to be poured during mid-winter.

During the first week of February the fifth floor was completed and the roof half centered.

TWO COMPLETE INSLEY PLANTS WERE USED

INSLEY MFG. CO., Engineers Manufacturers **Indianapolis**

New York, Pittsburgh, St. Louis, Columbus, St. Paul, Philadelphia, Milwaukee, Boston, Duluth, Cleveland, Detroit, Denver, Omaha, Cincinnati, Buffalo, Louisville, Seattle, Chicago, San Francisco, Kansas City, Salt Lake City

Pernicious Partners

FROST & THAW
Professional
Pipe Busters

Frozen ground

YOU know what happens when you pour a little hot water into a cold glass tumbler—there's not much left of the tumbler.

It's a good deal like that when Jack Frost bores down to a brittle water main. Jack is surely a successful contractor. He will contract the top portion of that pipe until it hates itself as does the glass tumbler half full of hot water.

Or if Frost freezes the earth all around the pipe, Thaw, his partner in crime, comes along later and raises the temperature in spots, and the result is the same—internal strain that often makes the pipe burst like a Rupert's drop in trying to get away from itself.

You may figure that in any case the water in the pipe will cause an approximately even temperature to be maintained in the metal, but it doesn't do it—you'll find plenty of proof that it doesn't in the newspapers of America, with their two or three reports daily of burst water mains, water waste, flooded streets and damaged property.

The one safe insurance against these wastes is Lock-Bar Steel Pipe. It is to a certain extent elastic, and will stand unequal strains without developing leaks.

Not a single case of damage to Lock-Bar has ever been charged to the account of Frost & Thaw.

The joint that is as strong as the plate

The Man from Missouri

Not frozen

Before Closing

After Closing

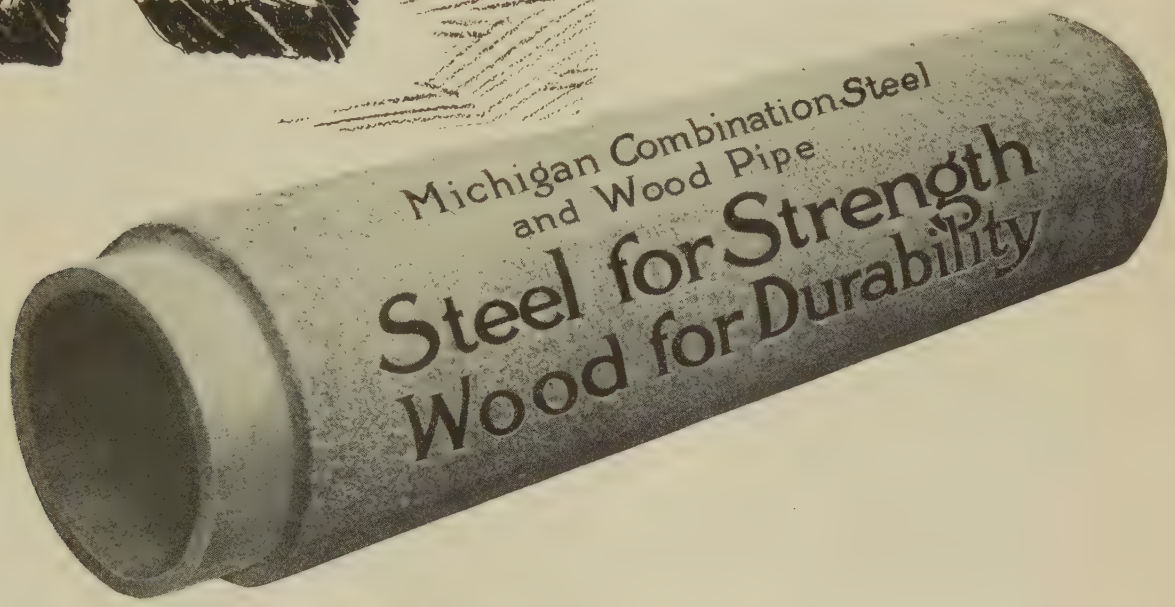
East Jersey Pipe Corporation

Fulton and Church Streets, New York City

Works, Paterson, N. J.

Its Carrying Capacity is Greatest!

(13th Service Aid of the 17)



Engineers generally accept the "coefficient of roughness" of Michigan Pipe ("n" in Kutter's formula) as .009.

Michigan Pipe has demonstrated in service that in pipes several miles in length its carrying capacity is frequently 20% greater than that of other types of water mains.

There is nothing exposed to corrosion in Michigan Pipe. The smooth, heavy staves of Canadian White Pine simply wear smoother with age. They afford no lodgment for algæ.

There are Michigan Pipe lines 40 years of age which furnish some interesting data for engineers.

Write for the Michigan Pipe Book

The Michigan Pipe Co., Dept. 17, Bay City, Mich.

Chicago: 203 South Dearborn Street Boston: 93 Broad Street New York: 30 E. 42nd Street

319 Hamilton National Bank Bldg., Chattanooga, Tenn. 421 Security Building, Galveston, Texas

Do you still accept "Mixer Trouble" as an "Alibi" for a poor day's work?

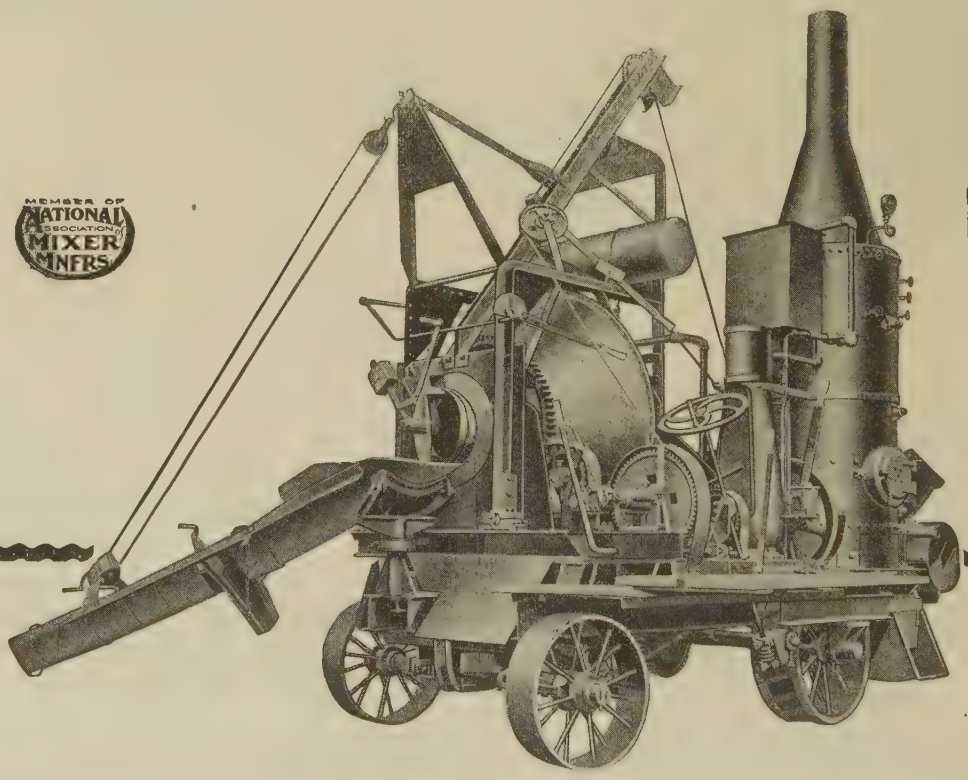
When "Mixer Trouble" is written on your daily report, do you accept it as the equivalent of yardage?

It's All Out of Date

Wide-awake and successful contractors in all parts of the country have eliminated "Mixer Trouble" almost entirely by using

FOOTE MIXERS

The ability of the Foote Paver to "hit the ball" constantly and its practical immunity from breakdowns is one of the reasons why 65% of all Foote Paver Sales are to old customers.



MEMBER OF NATIONAL ASSOCIATION OF MIXER MNFRS

EVERY FOOTE A MIXER

Address the Nearest Agent

Foote Concrete Machinery Co., 110 So. La Salle St., Chicago, Ill.
Wilcox Bros., Inc., 26 Roosevelt Ave., Binghamton, N. Y.
E. J. McHarg & Co., 3 Crandall St., Binghamton, N. Y.
Edward R. Bacon Co., 51 Minna St., San Francisco, Cal.
Made by C. Foote Manufacturing Co., Inc., Nunda, N. Y.

NEW NIAGARA RIVER POWER STATION

THE NIAGARA RIVER STATION

BUFFALO GENERAL ELECTRIC COMPANY

Designed and built by Stone & Webster Engineering Corporation.

Henry G. Stott, Consulting Engineer for Buffalo General Electric Co.

Initial capacity - - - - - - - -	60,000 Kw.
Extension now in progress - - - - - -	35,000 Kw.
Designed for ultimate capacity of - - - -	200,000 Kw.

In commercial operation ten months and twenty days after breaking ground.

A world's record has likely been made as regards time of construction. The ground was broken for this work in January, 1916, and the Station was put in commercial operation in November of the same year, a truly remarkable performance in normal times to say nothing of conditions such as we have just passed through with regard to the difficulties in obtaining materials, labor and other necessities for completing a large engineering job of the kind.

—POWER, February 13, 1917.

STONE & WEBSTER ENGINEERING CORPORATION

BOSTON
NEW YORK
CHICAGO

BOSTON
NEW YORK
CHICAGO

NEW NIAGARA RIVER POWER STATION

General Electric Company

General Office: Schenectady, N. Y. Sales offices in all large cities

NIAGARA'S 200,000 KILOWATT STEAM ALLY

CURTIS TURBINES
CLOSELY LINKED
RELIABILITY
ECONOMY

Curtis Steam Turbines

The opposite page represents the Turbine room of the Niagara River Station of the Buffalo General Electric Company as it will appear when the 35,000 kilowatt Curtis Steam Turbine Generator, now under construction, is added to the three 20,000 kilowatt Curtis Steam Turbine Generators now installed.

General Electric Company

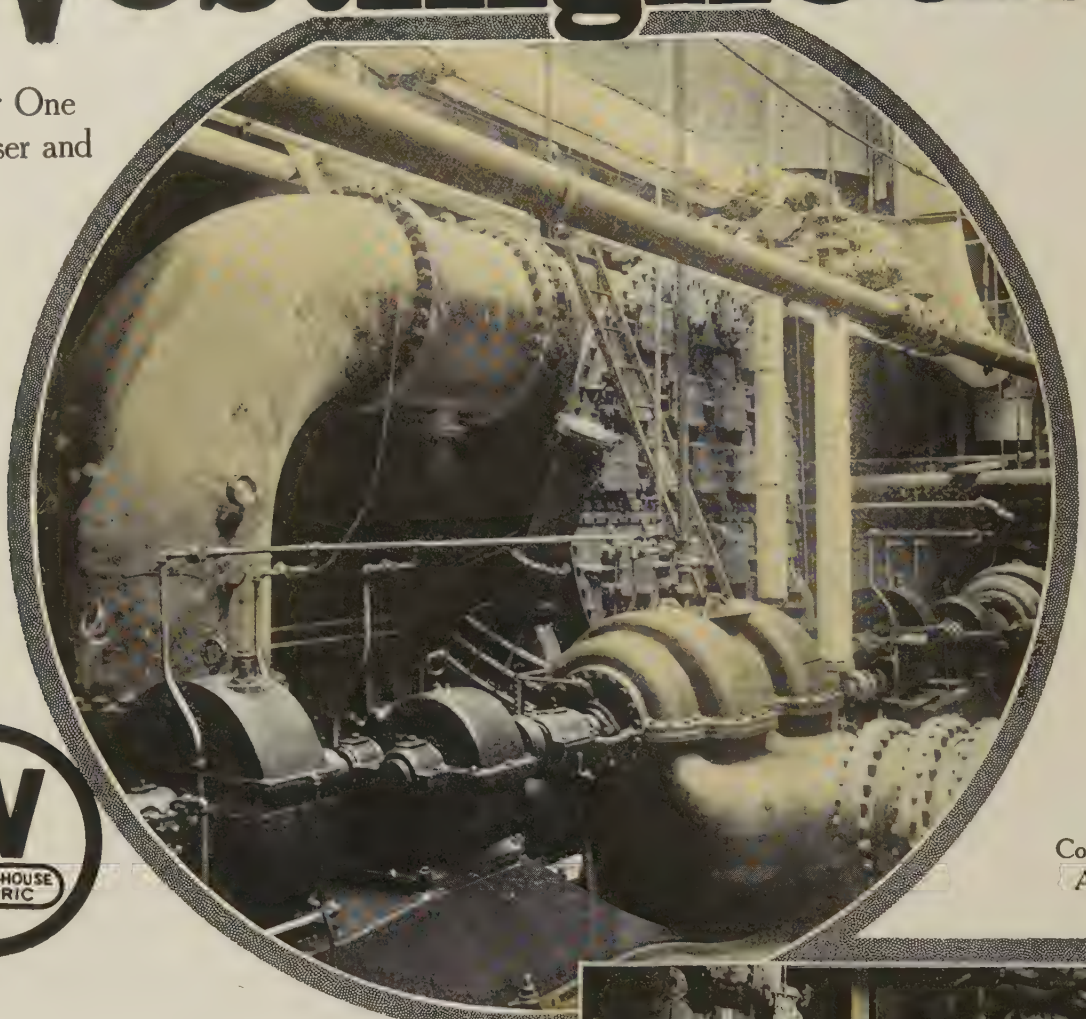
General Office: Schenectady, N. Y. Sales offices in all large cities

6921

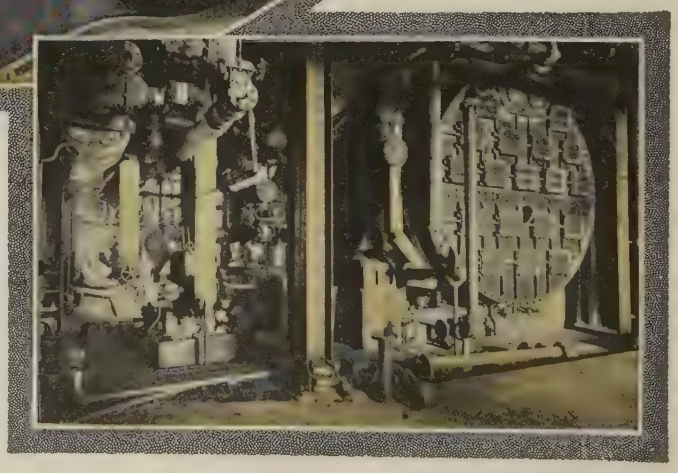
NEW NIAGARA RIVER POWER STATION

Westinghouse

Number One Condenser and Pumps



Condenser and Air Pumps



The condensing equipment in this plant consists of three Westinghouse Surface Condensers with Westinghouse Leblanc Air Pumps and Westinghouse Circulating Pumps, all driven by Westinghouse Non-Condensing Turbines through their well-known Reduction Gears. This equipment, clearly shown in the accompanying views, serves all the main generating units.

Each Condenser has a capacity of 33,000 sq. ft. and is capable of condensing 220,000 pounds of steam per hour. For this purpose 40,000 gallons of cooling water per minute s needed.

The condensers have two circulating pumps each. Each pump has a capacity of 25,000 gallons, sufficient for full-load operation under minimum temperature conditions.

The boilers, which operate at 275 lbs. pressure with 275° superheat are fed by four-staged cen-

Westinghouse Electric & Mfg. Co.
East Pittsburgh, Pa.

NIAGARA'S 200,000 KILOWATT STEAM ALLY

Westinghouse

Switchroom

Oil Switches

trifugal pumps driven by Westinghouse Turbines.

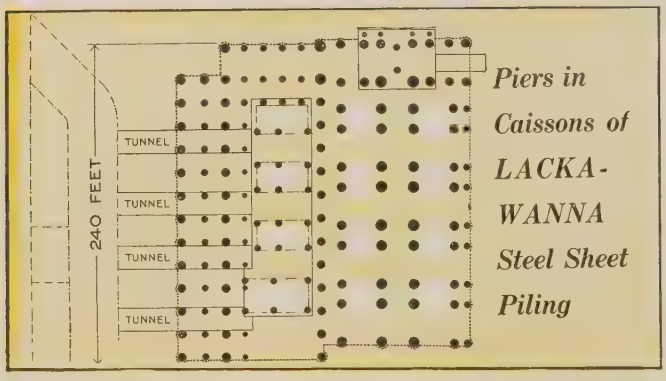
The actuating or nerve center of the entire Power Station—the main switchroom and operator's table—is shown at the top of this page.

On the left of this view is the main switchboard controlling at present the three 20,000 K.W. generators. Beyond it is the auxiliary switchboard with 16 panels. On the right is the feeder board with 6 panels each having a front and rear section. 31 panels are now installed and space is provided for future additions. The innumerable indicating and recording instruments, switches, etc., in the picture were manufactured and installed by the Westinghouse Electric & Mfg. Company as well as auxiliary equipment consisting of oil switches (lower view) and a great quantity of other apparatus such as disconnecting switches, instrument transformers, lightning arresters, etc.

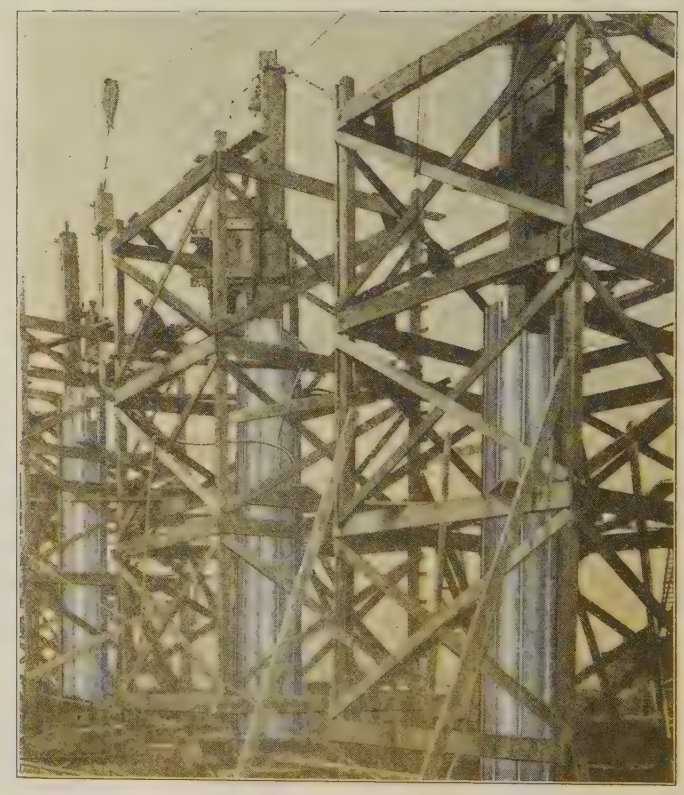
Westinghouse Electric & Mfg. Co.

East Pittsburgh, Pa.

Lackawanna Steel Sheet Piling Used in Build-



Piers in Caissons of LACKA-WANNA Steel Sheet Piling



A big foundation problem faced the Engineers in building the NIAGARA RIVER STATION and the manner in which it was solved with the use of Lackawanna Steel Sheet Piling will be gathered from these views of the work in progress.

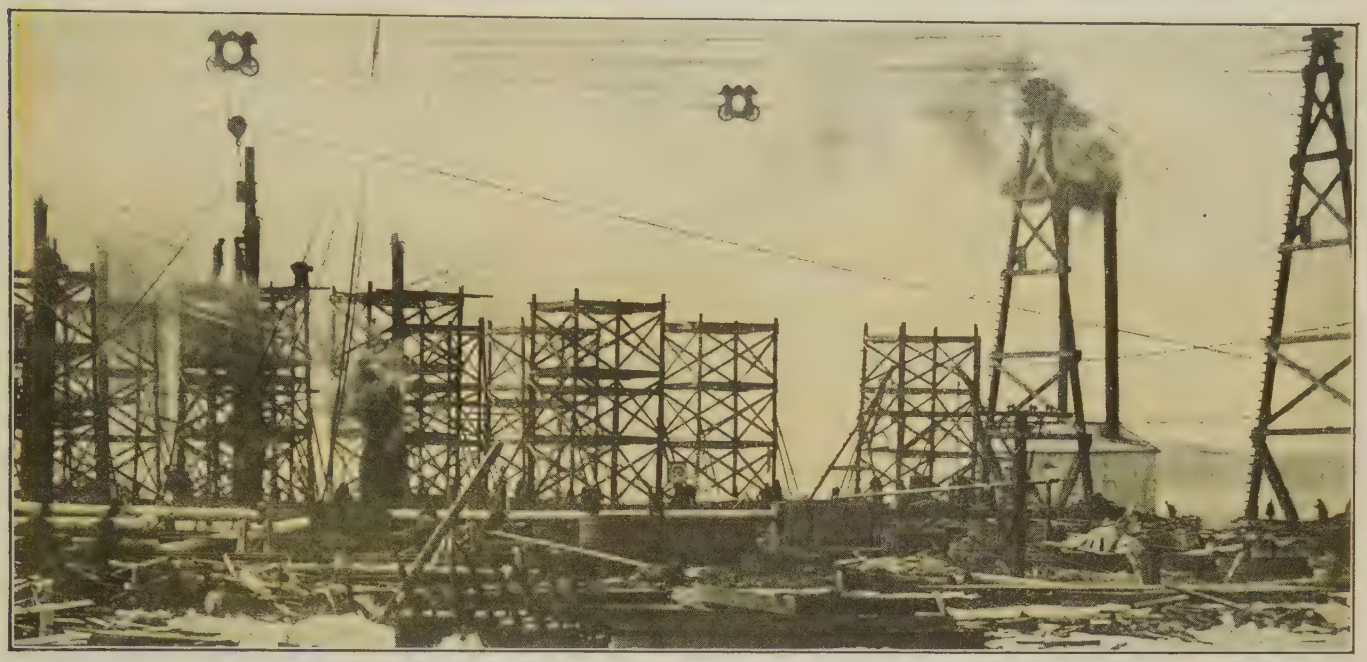
The Station and machinery rest on bed rock. The rock is 40 ft. beneath the surface of a low-lying shore and 157 concrete and steel piers penetrate the intervening stratum of soil. The panorama shows one of the 16 rows of piers going in with cableways 300 ft. long handling the sheet piling.

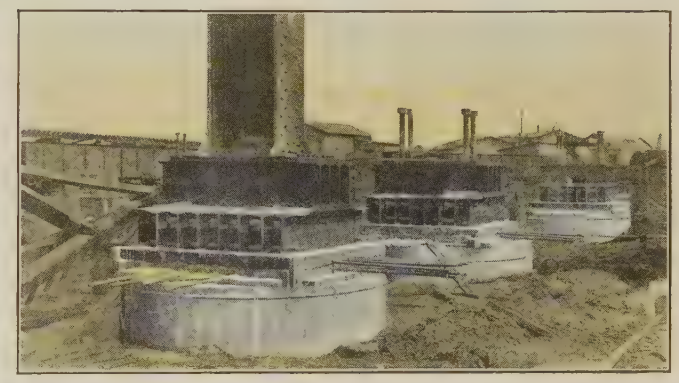
Each pier is built in a separate caisson of sheet piling which becomes a part of the permanent pier structure. Approximately 70,000 lineal feet of the 12-34 x ⅜ Section Lackawanna Steel Sheet Piling was used to form these cylinders. The driving by means of steam hammers suspended from tackle on centrally placed masts is shown in the vertical view above, while on the opposite page is the top view of a cylinder driven and above it the wooden form which shaped it, all piers being driven in the same manner.

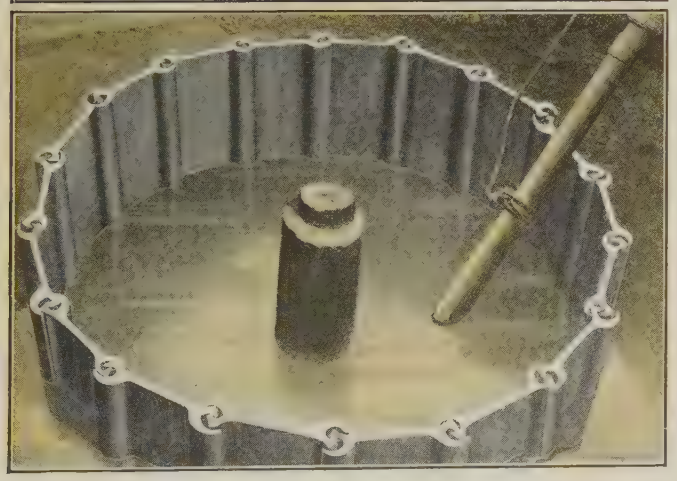
The entire work was carried out and the concrete placed under severe winter conditions in seventy working days. The average time for driving a cylinder was six hours and this included penetration into bed rock 6 to 18 inches.

The caissons surrounding the turbine foundations

ing Foundation Piers, Canals and Tunnels







were also of Lackawanna Piling and some 344 tons of the Arched Web Type were used for the construction of condensing tunnels and intake. These waterways under maximum conditions for the 200,000 kilowatts of the finished Station will carry 2,500,000 gallons an hour or a quarter more water than will flow to New York City in the new Catskill Aqueduct.

Now that our piling can be obtained with special bent webs to produce cylinders of every practical diameter, pier foundations can be made in this way to meet every requirement of safety, strength and reasonable cost.

LACKAWANNA STEEL COMPANY

General Sales Office and Works: Lackawanna, N. Y.

ATLANTA
BOSTON
BUFFALO

CHICAGO
CINCINNATI
CLEVELAND

DETROIT
NEW YORK
PHILADELPHIA

ST. LOUIS
SAN FRANCISCO
HAVANA

Hayward Orange Peel Buckets

Ask for Bucket Catalog No. 43.

In the sinking of the foundation caissons and in excavating for crusher pit, water tunnels, intakes and screen well at the Niagara River Station, Hayward Orange Peel Buckets played an important part.

157 caissons were sunk and these varied in diameter from 30 in. to 7 ft. Four Hayward Orange Peel Buckets were used ranging in capacity from 2 cu. ft. to 9 cu. ft.

For the initial excavation work in these caissons, hydraulic jets and ejectors were used operating under a water pressure of 180 lbs. per sq. in. The Hayward Buckets were then used for digging out the coarse gravel and boulders which remained in the bottom 30 ft. below water level. The total amount of material removed with the assistance of these Buckets was approximately 17,800 cu. yds.

In addition to the Orange Peel Type, we also make Clam Shell Buckets, Drag Scraper Buckets and Electric Motor Buckets. Our new Catalog 43 illustrates and describes these various Buckets and contains numerous photographs of the kinds of work for which the several types are suited.

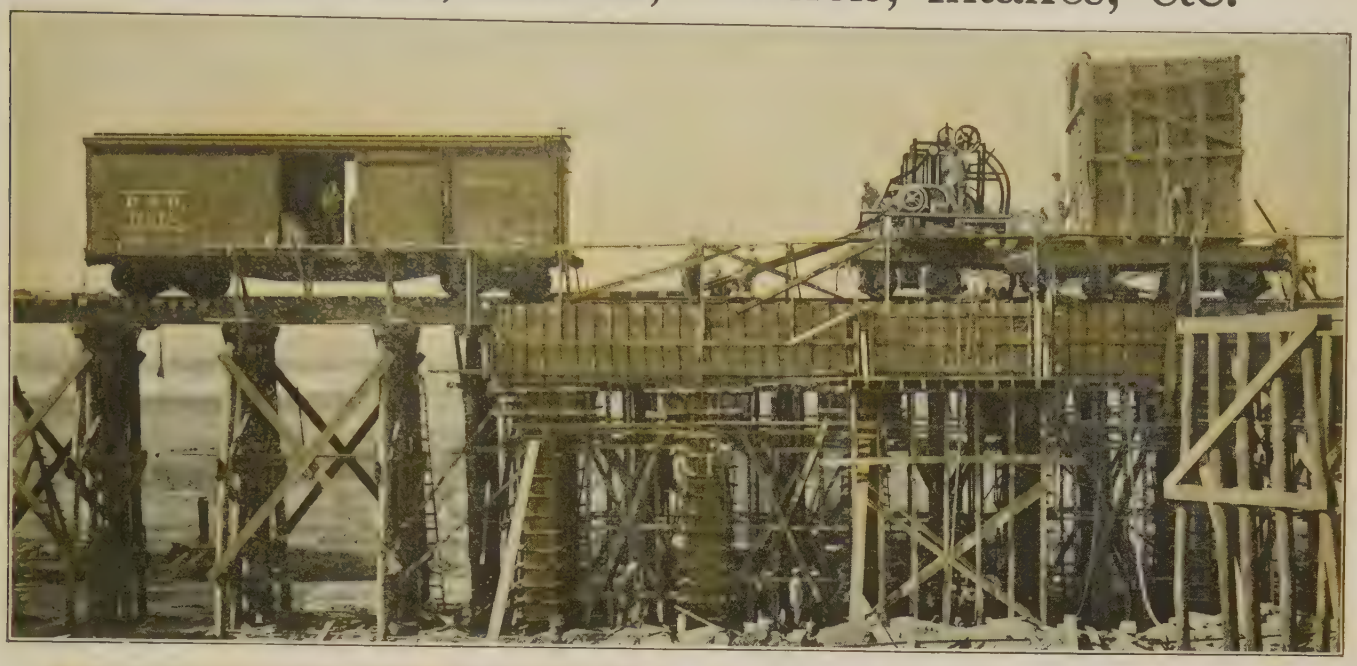
THE HAYWARD COMPANY

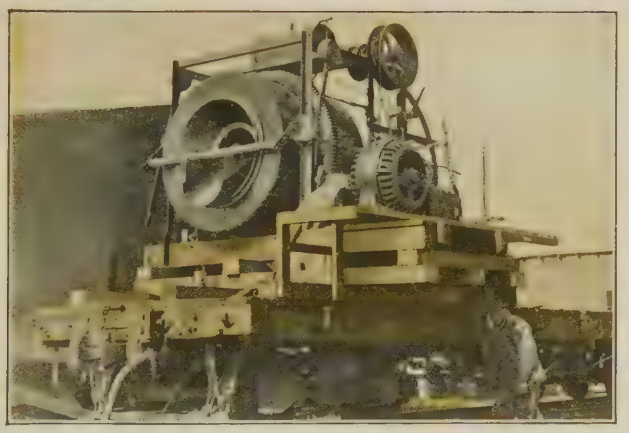
Builders of Orange Peel, Clam Shell, Drag Scraper and Electric Motor Buckets

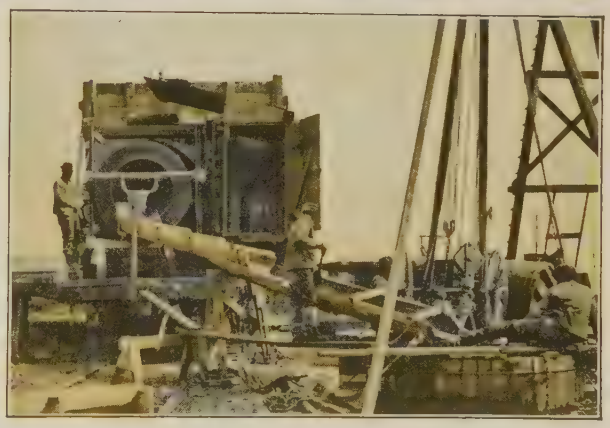
50 Church Street, New York, N. Y., U. S. A.

NIAGARA'S 200,000 KILOWATT STEAM ALLY

Smith-Chicago Mixers Mixed the Concrete for the Foundations, Tracks, Tunnels, Intakes, etc.







Concrete entered extensively into the construction of the NIAGARA RIVER STATION, 40,000 barrels of cement being used with 20,000 yards of sand and 34,000 yards of stone. The bulk went into the elaborate system of 157 foundation piers and the waterways for condensing water and was laid by Smith-Chicago Mixers.

For concreting the 157 piers, tracks were laid in the lanes between the waiting cylinders of steel sheet piling which extend 40 feet down to bed-rock. The above views show the method of mounting a Smith-Chicago Mixer to make a portable outfit and also outfits at work on a concrete trestle and on foundations.

Plying on the tracks between the steel cylinders and feeding concrete through a tremie, such an outfit worked with the utmost rapidity and insured speed where speed was a vital factor. Faith in its complete dependability under all conditions led to the selection of the Smith-Chicago for this big job and it fully met the most exacting requirements of continuous service in the severest winter weather that western New York had seen in twenty years.

Send for Smith-Chicago Catalogue No. 11-L

THE T. L. SMITH COMPANY

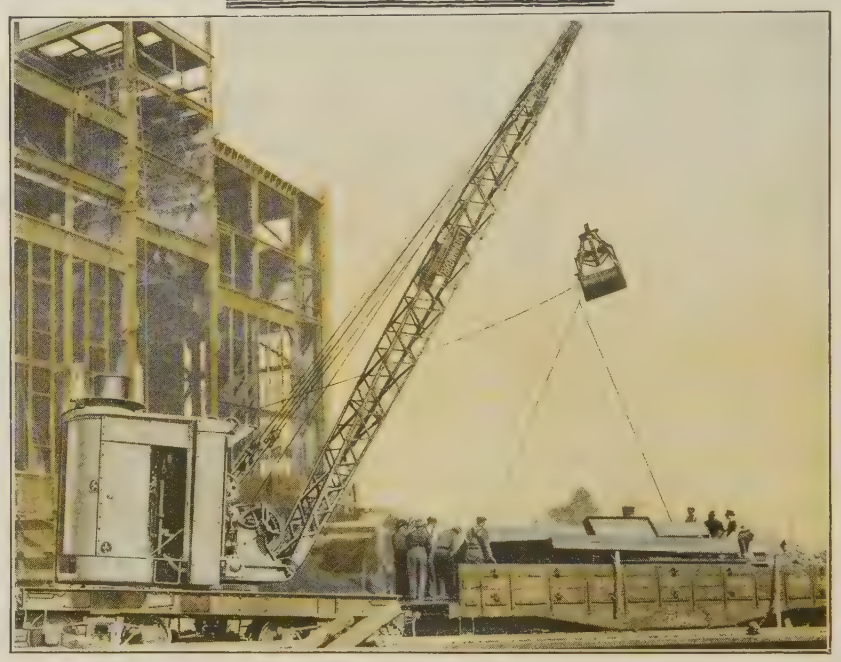
3104-L Hadley St., MILWAUKEE, WIS.

Brownhoist Crane Gives Complete Operating and Construction Service

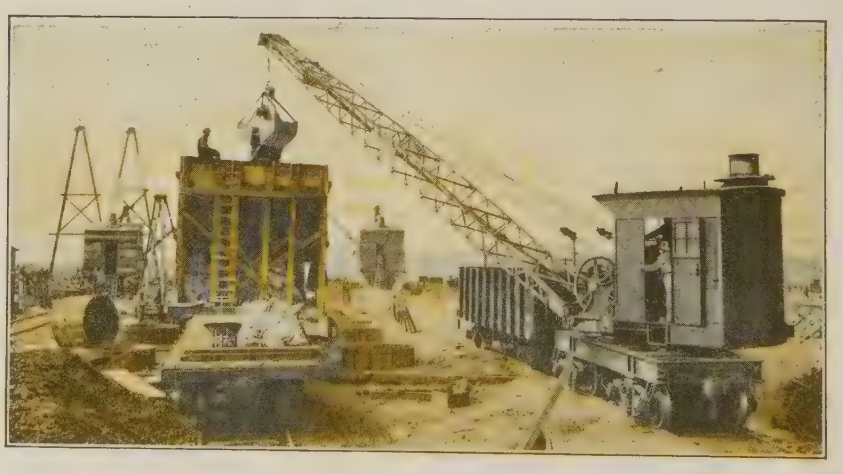
There is no busier piece of machinery or equipment connected with the NIAGARA RIVER STATION than the Brownhoist Locomotive Crane shown on this page. It also enjoys the distinction of being the only important machine that saw the site practically at the breaking of ground, stayed with the Job throughout the construction period, and will now remain as part of the permanent equipment.

BROWNHOIST

Serviceable as the Crane was in assisting with the excavation, in maneuvering portable concrete outfits, in feeding cement, stone and sand and in handling the vast amount of freight, its most important function now comes in tending the Station in actual operation. It will haul cars of coal directly into the Station over the coal crushers, or it will take them to the coal storage yard and unload them, depositing the coal at distances up to fifty feet either side of the track.



Upper View, Unloading Steel
Lower View, Handling Concrete Materials



During construction the Crane has been called upon to lift 12 tons with boom at short reach and from this down to 2½ tons at full reach. It operates on curves of 75 feet radius and as a locomotive hauls two 50-ton cars up 2% grades.

The ultimate service required of this Brownhoist Crane, and a service which must be absolutely unfailing in its regularity, will be best appreciated when it is understood that with 200,000 kilowatts installed, it will have to handle 175 tons of coal each hour. This is a place where only a quality crane, the best the market affords, will do; hence BROWNHOIST.

THE BROWN HOISTING MACHINERY COMPANY

BRANCH OFFICES in New York, Pittsburgh, Chicago, San Francisco, and (Portland, Ore., Colby Eng'r Co.)

CLEVELAND, OHIO

Engineers and Manufacturers of Heavy Dock Machinery, Bridge Cranes, etc., as well as smaller cranes and hoists

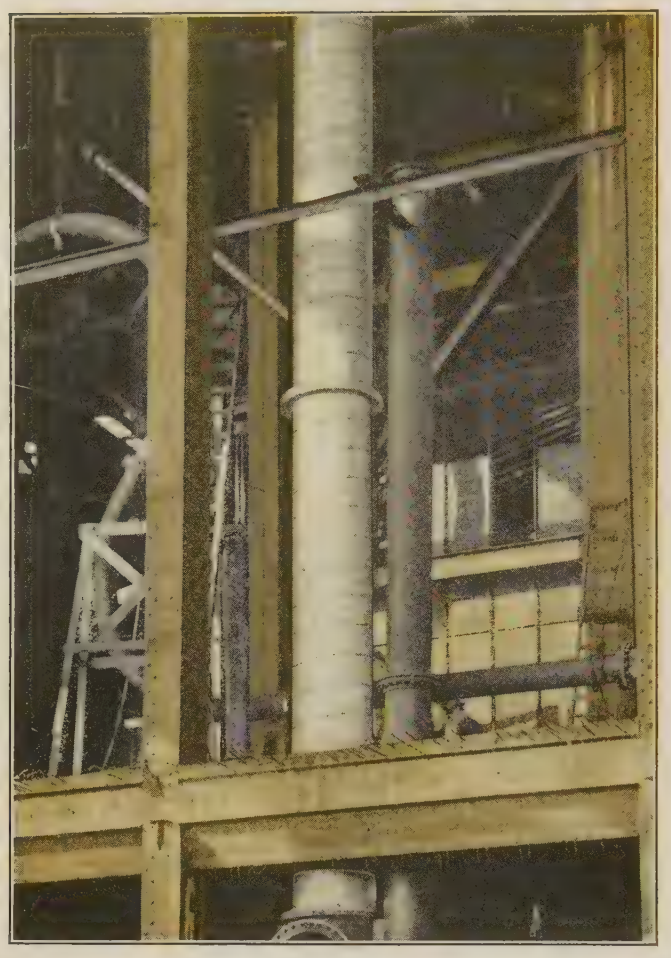
Mead-Morrison Coal Handling

The capacity of each half of the duplex system of coal handling installed by the Mead-Morrison Manufacturing Co. in the Niagara River Power Station is 200 tons an hour. There are two independent motor-operated crushers, two McCaslin bucket conveyors, elevating to the full height of the Station, and two belt conveyors running the full length. The total combined travel one way is nearly 700 feet.

MEAD-MORRISON MANUFACTURING CO.

NEW YORK EAST BOSTON, MASS. CHICAGO

American Spiral Riveted Pipe Emergency Exhaust



Emergency Exhaust Pipe, Turbine No. 1

Spiral Riveted Pipe

Spiral Riveted Atmospheric Exhaust Pipe, one for each turbine.

73 feet in height, 36 inches in diameter extending from basement to roof of the station.

The pipe is of American Spiral Pipe Works manufacture, galvanized after completion, with FORGED STEEL Flanges attached.

It has enormous bursting strength, exceptional resistance powers against collapsing under vacuum; great strength and rigidity against bending.

Galvanizing insures thorough protection.

Extensively used for Exhaust Steam and Condenser Water Circulating Systems.

Sizes 3 to 42 inches in diameter.

Lap Welded Pipe

MANUFACTURED

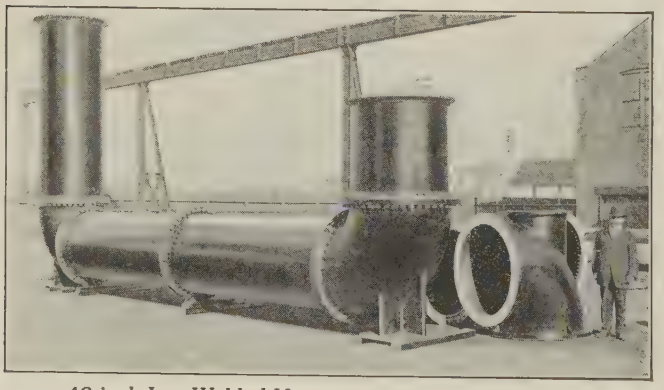
Sizes: 12 to 72 inches.

Thicknesses: 1/8 to 1 1/2 inches.

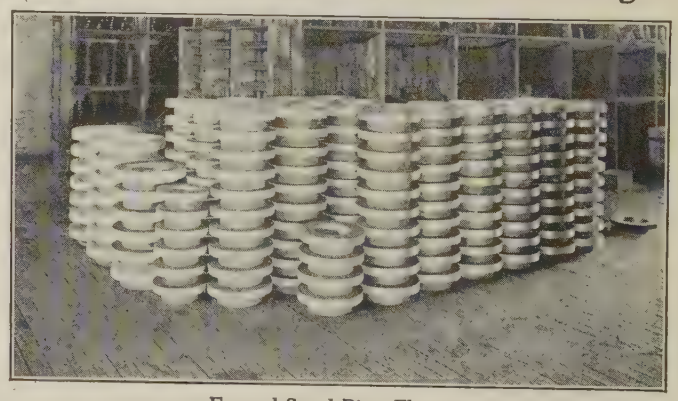
FOR:

High Pressure Steam Mains Condenser Pipe.
Gas Mains.
Water Supply.
FORGED STEEL Pipe Flanges for High Pressure Steam Pipe.

Two Scenes at the Plant of the American Spiral Pipe Works, Chicago



48 inch Lap Welded Vacuum Pipe La-Fe Mining Co.



Forged Steel Pipe Flanges

Catalogues and full information upon request

AMERICAN SPIRAL PIPE WORKS

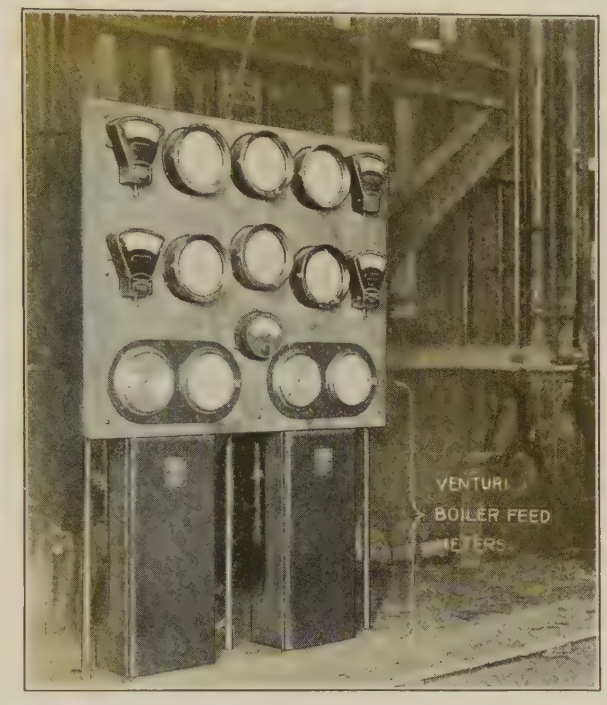
Main Office and Works, CHICAGO, ILL., P. O. Box 485 New York Office, 50 Church Street

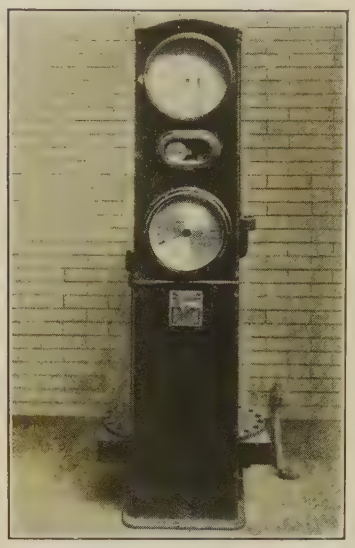
NIAGARA'S 200,000 KILOWATT STEAM ALLY

First and Last "Venturis" Measure the Flow

Above is one of the 6-inch Venturi Tubes through which the water passes from Turbine Number One.

The center picture is the gauge board for Number One Boiler.





Each boiler has such a gauge board.

Above at the right is the Venturi Instrument for Number One Turbine near the unit on the turbine floor.

For the water entering each boiler and the condensate coming from each turbine there is a complete Venturi outfit manufactured by the Builders Iron Foundry to measure and record the quantity. With the installation of 95,000 kw. there will be evaporated normally 1,400,000 pounds of water per hour and the turbines will return 1,000,000 pounds; a total of 2,400,000 pounds in all passing through the Venturis.

A unique feature of the STATION is the adoption of boiler gauge boards. These boards, one for each boiler, are mounted on the standards, made by the Builders Iron Foundry, which carry the dials of the Venturi recording apparatus. Thus the Venturi Instruments and the other boiler gauges form one structure, which is immediately under the eye of the operator.

One dial of the Venturi shows the rate of entering water, and the other records the continuous 24-hour consumption of the boiler in the usual manner. The Tubes are located between the boilers and the economizers. While the boiler evaporates normally 137,000 pounds an hour, the Venturi attached has a capacity of 170,000 pounds.

The Venturis on the turbines are between the hot-well pumps and the feed-water heaters. Each 20,000 kw. turbine requires 212,000 pounds of water an hour, but each Venturi has a capacity of 275,000 pounds. The Venturi instrument boards for the turbines are on the floor of the turbine room beside the machines.

This complete application of Venturi Meters at all points in this most modern power station employing the highest steam temperatures and pressures yet used on a large plant for the attainment of final economy, speaks for itself. But Venturi service goes beyond the mere installation of the Meter. We are ready to recommend improvements in boiler feeding methods whenever opportunity presents. Test out Venturi Service by writing today, stating your problem.

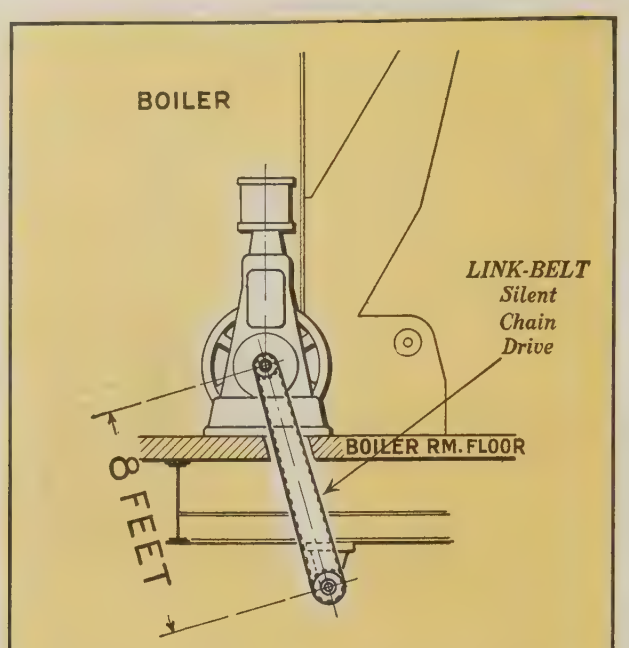
BUILDERS VENTURI IRON FOUNDRY

BUILDERS IRON FOUNDRY PROVIDENCE, R. I.

"Builders of the Venturi"

New York Pittsburgh Chicago San Francisco Los Angeles Seattle Portland

Link-Belt Silent Chains Drive the Stokers



LINK-BELT Silent Chain Drive connecting engine with drive shaft on one of the boilers

Link-Belt Silent Chains connect the Stoker engines with the Stoker drive shafts on each of the five boilers. The five chains all run on 8 ft. centers and transmit normally 20 h.p. each. They speed up the Stokers as the peak load comes on the Station and the demand on each boiler gradually increases to six thousand horse power.

Link-Belt Silent Chain has been chosen for a severe duty in connection with one of the most important features in the NIAGARA RIVER STATION, but years of service under all conditions have proved it the most reliable and satisfactory for power transmission. The Link Belt Chain is flexible as a belt, positive as a gear, more efficient than either. It transmits power quietly, without slip or loss, eliminates journal friction and is immune against deterioration due to heat, cold, moisture or oil.

In factories the best production records,—quality of output, uniformity of production, uninterrupted operation—are being made today by machines driven through Link-Belt Silent Chains. Reliability—Stability—Efficiency (over 98%) depend on the exclusive feature of Link-Belt Silent Chains—a patented Pin-Bushed-Joint-Construction—a round pin and two case hardened semi-circular bushings—found in no other chain. Fully explained in 112 page price list Data Book No. 125—sent on request.

Look for the name on the washers
Look for the liners in the joints

LINK-BELT COMPANY

PHILADELPHIA
New York.....299 Broadway
Boston.....49 Federal St.
Pittsburgh.....1501 Park Building
St. Louis.....Central National Bank Bldg.
Buffalo.....698 Ellicott Square
Cleveland.....1304 Rockefeller Bldg.

CHICAGO
Detroit.....732 Dime Bank Bldg.
Wilkes-Barre.....2d Nat'l Bank Bldg.
Minneapolis.....418 S. Third St.
Louisville.....F. Wehle, Starks Bldg.
Seattle.....580 First Ave. South
Portland, Ore.....14th and Lovejoy Sts.

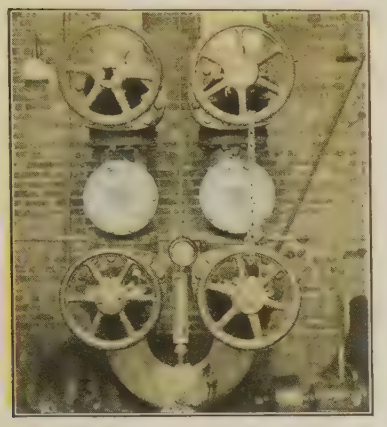
INDIANAPOLIS
Los Angeles.....161 N. Los Angeles St.
Denver...Lindrooth, Shubart & Co., Boston Bldg.
San Francisco.....461 Market Street
New Orleans Whitney Supply Co., 418 S. Peters St.
Knoxville.....Empire Bldg.
Birmingham. D. T. Blakey, 309 Am. Trust Bldg.

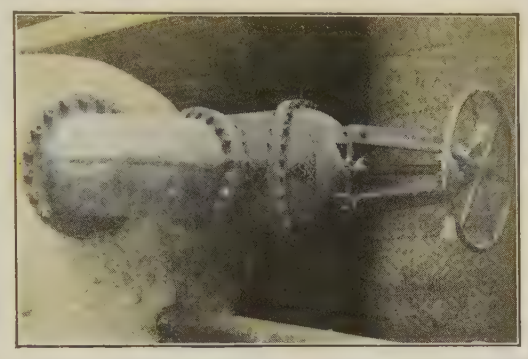
Charlotte, N. C..J. S. Cothran, Com'l Bank Bldg.
Toronto.....Canadian Link-Belt Co., Ltd.

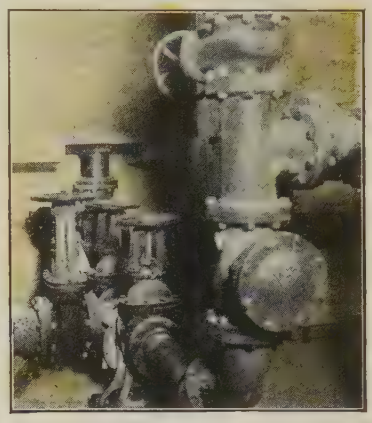
Pratt & Cady Valves in the Niagara River Power Station

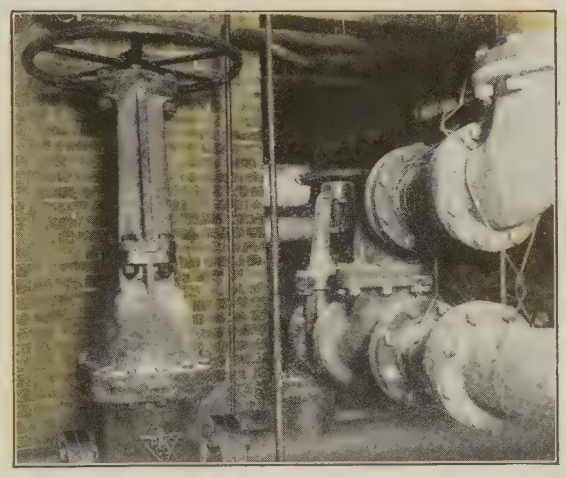
A group is shown of four typical installations of the many Pratt & Cady Valves variously situated on the large and medium-sized steam and water mains throughout the Niagara River Station.

The upper and lower pictures of the group, it so happens, exemplify the wide range of location of our valves in the job. The photograph above was taken near the top of the Station on the boiler side and shows the 20-inch valve on Feed Water Heater No. 3. The other three feed water heaters, similarly equipped with Pratt & Cady Valves, are illustrated in one group elsewhere in this Campaign.









The lower photograph, taken in the basement of the Station, shows one of the 20-inch valves on the main auxiliary exhaust opposite the Number Three turbine, and back of it are two other "P & C" valves, the smaller on the air exhaust and the larger on force draft fan No. 3.

The left photograph shows two of the 6-inch check valves on the discharge from one of the boiler feed pumps. Each of the three pumps is similarly equipped, and the 4-inch check valves in the boiler feed piping next the boiler stop valve, twenty in number, are Pratt & Cady make. This comprises all the steel check valves on the high pressure steam piping of the Station.

In the right hand photograph five of our valves are shown in a single group in connection with the permanent testing system of the Station. The three close together are between the Weir meter and the measured water returns pump; the 6-inch check valve and 6-inch gate valve above are in the circulating lines to the test condenser.

Simplicity and durability, resulting from designs which are the growth of thirty years' experience in manufacturing power plant accessories, lead to the selection of Pratt & Cady Valves for this important share in the extensive valve equipment of the Station.

We will gladly furnish full particulars regarding all these valves and others which we manufacture.

P&C CO.

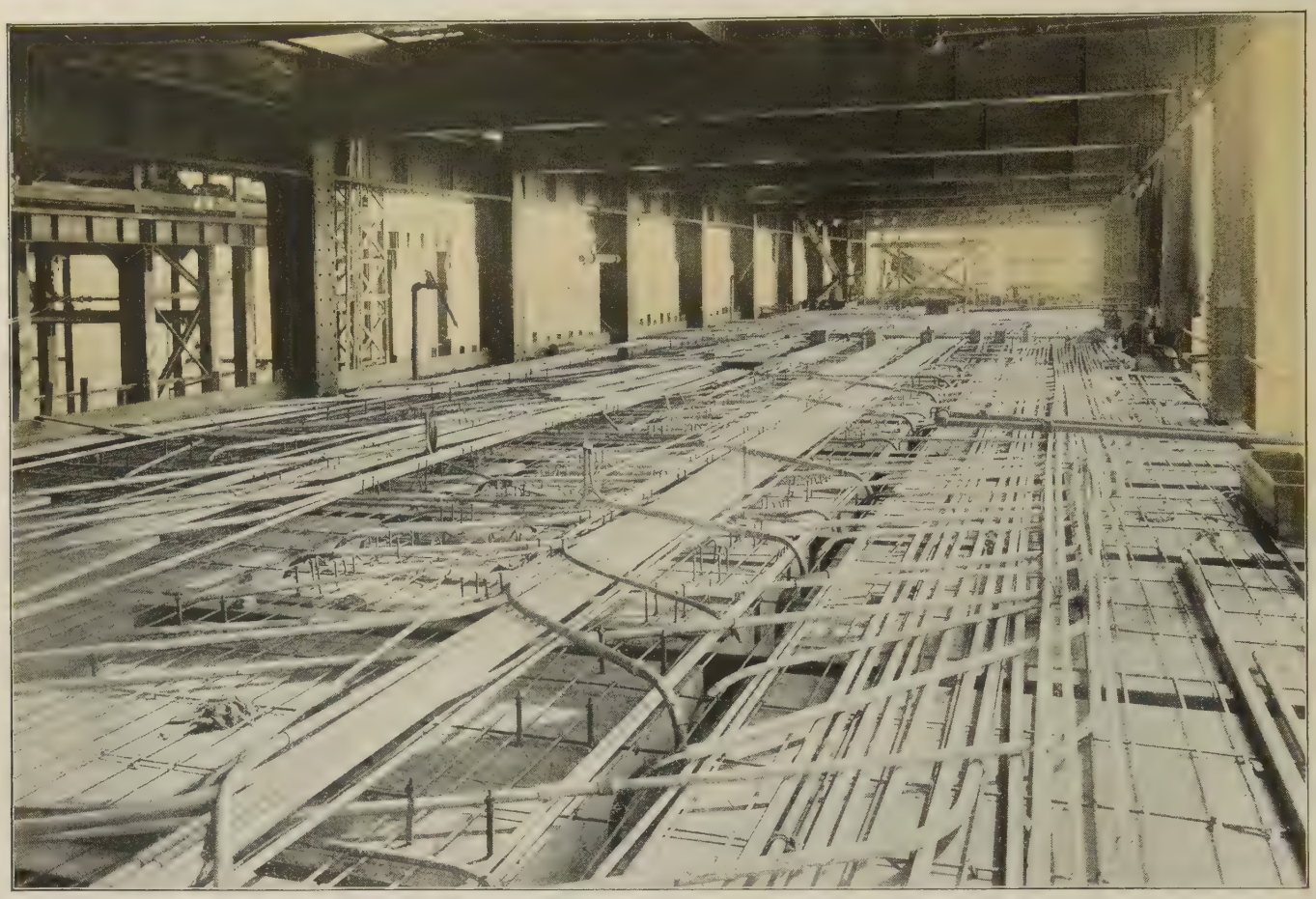
PRATT & CADY COMPANY, INC.

Makers of Valves, Cocks, Steam Traps and Hydrants

HARTFORD - - - - - - CONNECTICUT

NEW NIAGARA RIVER POWER STATION

100,000 Feet of "Alumaduct" Conduit



This is beneath the switchroom floor where the electrical circuits of the Niagara River Station are mobilized. They are led through 100,000 feet of "ALUMADUCT" varying from ½ inch to 2½ inches in size. The contract also included all the fittings.

"ALUMADUCT" is coated with an alloy of such density and homogeneousness that no further coat such as enamel or paraffine is needed as protection against corrosion. The inner surface is coated with the same enamel as "Enamelduct".

"ENAMELDUCT" has two distinct coatings baked on the tubing, making it the most carefully prepared Black Enameled Conduit on the market.

"ARMYDUCT" is a Rigid Iron Conduit made by a new patented process of hot galvanizing. One of the features of the process is the elimination of the possibility of corrosion after cleaning and before galvanizing. The threads are treated so that they are impervious to corrosion. "ARMYDUCT" is the conduit for extreme conditions of exposure and dampness.

Manufacturers of Conduits

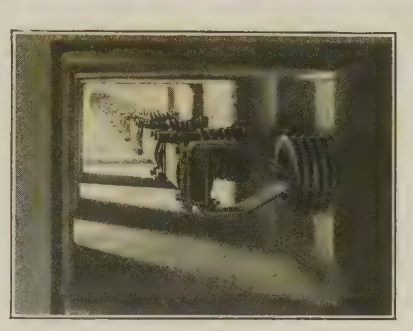
NATIONAL ENAMELING AND MANUFACTURING CO.

"ALUMADUCT" GALVANIZED

"ENAMELDUCT" ENAMELED

PITTSBURGH, PA.

Bus-Bar Supports and Disconnecting Switches



Left: 12,000 Volt Disconnecting Switches. Upper Center: Main Bus Supports, Front View. Lower Center: Main Bus, End View Right: Galley and Switch Compartments

The main busses in the NIAGARA RIVER STATION are carried exclusively on "Franklin" insulator posts manufactured by the Electrical Development and Machine Company. This Post is built for hard service and has many exclusive features. Materials and workmanship are the best and every expense and care is taken which would add to its reliability under extreme conditions. The contour of the porcelain and the top and base members is free from all projections that might induce static discharge. There are no dirt pockets and cleaning is simple.

The "Franklin" method of fastening the metal parts is original and gives very high cantilever and tensile strength. The collar on insulator is a metal composition and is driven around the porcelain under high pressure by a special device. The operation results in a most intimate contact between surfaces. All screws, clamping bolts and nuts are avoided by threading the outer surface of the collar, screwing on the outer member and jamming it home on a flexible cushioning washer. There is a maximum holding surface and absolute freedom from uneven clamping pressures or loosening of parts. The attachments for the support of the bus bars are screwed into the outer member and locked in place by a small countersunk locking screw, thus preventing the top or base attachment from loosening.

The disconnecting switches controlling the 12,000 volt lines are also our manufacture. They are of 300 amperes capacity and are mounted on steel bases and provided with locks, a special feature of our manufacture which insures against their being blown open in case of short circuits.

ELECTRICAL DEVELOPMENT AND MACHINE COMPANY

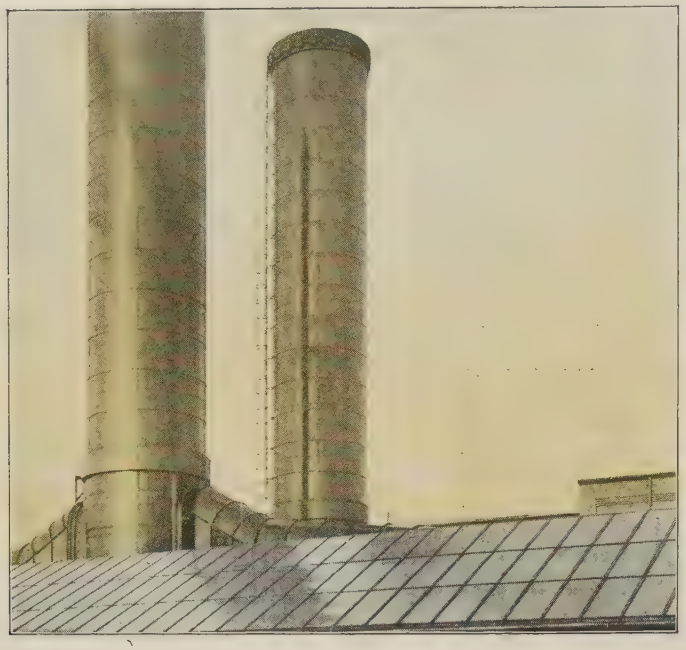
PHILADELPHIA, PA.

SELLING AGENTS

The Philadelphia Electric Company Supply Department

132 S. Eleventh Street • - - Philadelphia, Pa.

9,500 Square Feet of Skylight



This shows the double-pitch Lupton Rolled Steel Skylight, measuring 6,200 square feet, over the turbine room floor of the Niagara River Station. It is one of the twelve Lupton Skylights which here light and protect millions of dollars' worth of fine machinery.

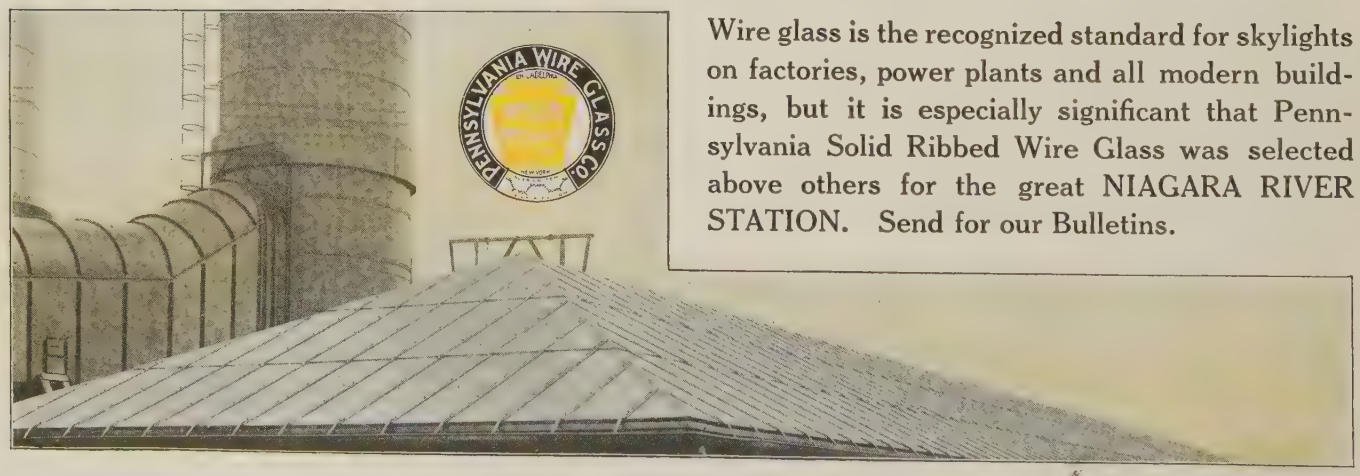
Lupton Rolled Steel Skylight is built to avoid breakage, leakage, and deterioration by corrosion. The skylight bar and cap are formed to receive glass lap, and the glass is cushioned between strands of specially saturated oakum. Condensation is fully drained. All metal parts exposed to weather are copper or brass. Being correctly designed, Lupton Skylight can safely be used over the most costly equipment.

No. 9 Catalogue, showing full line of Lupton Sash Products, will be sent on request.

DAVID LUPTON'S SONS COMPANY

Allegheny Avenue and Witte Street — Philadelphia, Pa.

Pennsylvania Solid Ribbed Wire Glass in the Skylights



Wire glass is the recognized standard for skylights on factories, power plants and all modern buildings, but it is especially significant that Pennsylvania Solid Ribbed Wire Glass was selected above others for the great NIAGARA RIVER STATION. Send for our Bulletins.

Turbine Room Skylight Containing 6200 Square Feet of Pennsylvania Ribbed Wire Glass

PENNSYLVANIA WIRE GLASS CO.

New York Office
70 Fifth Ave.

Pennsylvania Building, Philadelphia, Pa.

Works
Dunbar, Pa.

Advertisers' Index and Reference

NIAGARA RIVER STATION CAMPAIGN . . . . . ALL MEDIUMS

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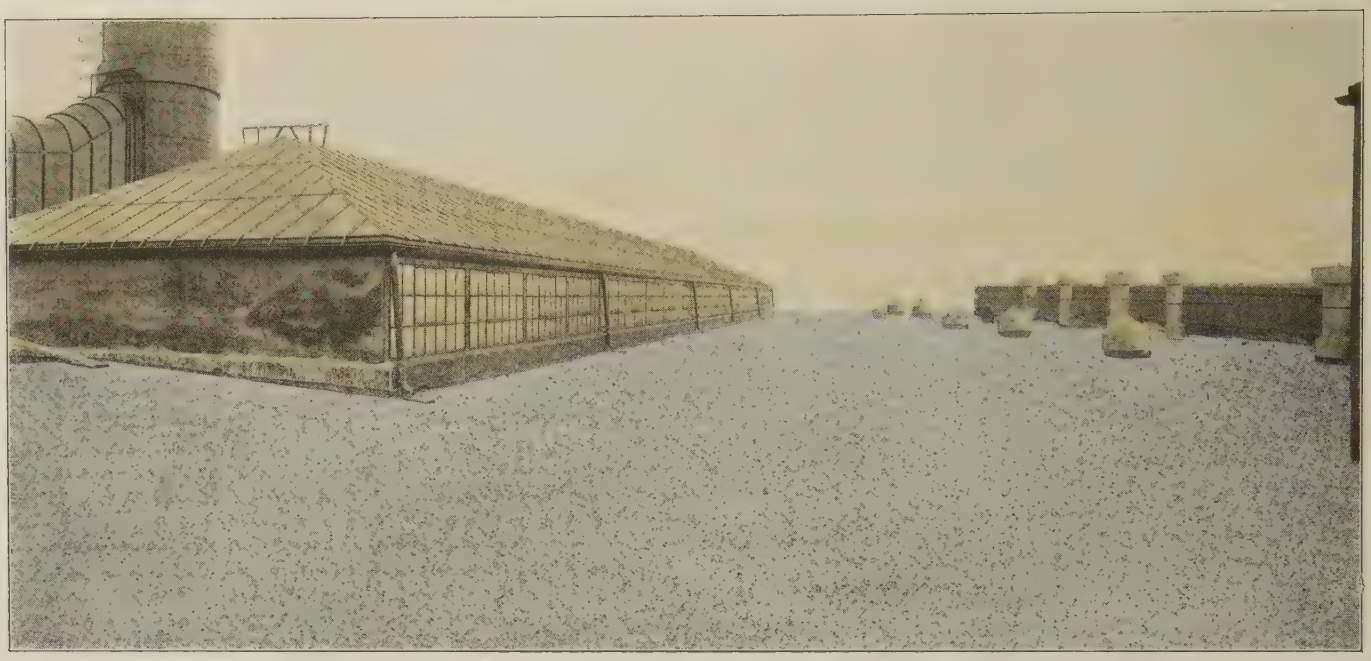
The photographs directly reproduced in the NIAGARA RIVER STATION CAMPAIGN and the photographs and engineering drawings used as the bases for such special illustrations as the Turbine Room for the General Electric Company and the Coal Handling for the Mead-Morrison Manufacturing Company were obtained with the help and through the courtesy of the Stone & Webster Engineering Corporation, the Buffalo General Electric Company, the Lackawanna Steel Company and others. The data specifically relating to the Station was placed at our disposal in large part through courtesy of the Stone & Webster Engineering Corporation.

Barrett Smith, Advertising Engineer
Boston, Mass.

March 15, 1917

NEW NIAGARA RIVER POWER STATION

Barrett Specification Roofs Cover This Great Power Station



The huge NIAGARA RIVER POWER STATION, which has been built in the most modern and scientific manner, is covered with a Barrett Specification Roof.

This is not to be wondered at; in fact, the wonder would be if some other type of roof had been specified, because most of the permanent structures of the country carry this roofing.

This preference is due to the fact that such roofs cost less per year of service than any other kind; that they are free from all maintenance expenses; that they are approved as "Class A" construction and take the base rate of fire insurance.

In addition to this, Barrett Specification Roofs are now guaranteed for twenty years.

This combination of twenty-year Guaranty with low cost and low insurance rate has put this roofing in a class by itself.

Guaranteed for 20 Years

We are now prepared to give a 20-Year Surety Bond Guaranty on every Barrett Specification Roof of fifty squares and over in all towns in the United States and Canada of 25,000 population and more, *and in smaller places where our Inspection Service is available.*

This Surety Bond will be issued by the United States Fidelity and Guaranty Company of Baltimore and will be furnished by us *without charge.* Our only requirements are that the roofing contractor shall be approved by us and that The Barrett Specification, dated May 1, 1916, shall be strictly followed.

A copy of The Barrett 20-Year Specification, with roofing diagrams, sent free on request.

Barrett Specification Roofs

Largest Manufacturers in the World of Roofing and Roofing Materials

The Barrett Company

Largest Manufacturers in the World of Roofing and Roofing Materials

New York Chicago Philadelphia Boston St. Louis Cleveland Cincinnati Pittsburgh
Detroit Birmingham Kansas City Minneapolis Nashville Salt Lake City Seattle Peoria
The Paterson Manufacturing Company, Limited: Montreal, Toronto, Winnipeg, Vancouver, St. John, N. B., Halifax, N. S., Sydney, N. S.

TRADE B MARK

Eight CARBIC Points

(1) PURE GAS — CARBIC CAKES give a smokeless flame.

(2) SIMPLICITY—consists of only three parts. No pumps, no globes, no mantles, no moving parts. Recharged in one-third the time of other lights.

(3) AUTOMATIC CONTROL — no waste—when light is turned off no gas is generated.

(4) FOOL PROOF—common labor operates it with ease and safety.

(5) STORM PROOF — will burn through any rain, wind or snow storm.

(6) LEAVES THE AIR CLEAN in close quarters, for it consumes little oxygen.

(7) THE CARBIC CAKE saves money — Permits intermittent use of light, avoids over-generation, over - charging and waste. Carried in stock for quick delivery everywhere.

(8) COST IS LOWEST—make us prove it. We will.

62 Pedestal Piles in One Day

THE Carbic LIGHT
TRADE MARK

The MacArthur Concrete Pile and Foundation Co. drove 720 Pedestal Piles on this job in Long Island City by the flare of Carbic Lights. In two shifts (8 hours and 6 hours) they set 62 piles. Two drivers were working. It was a rush job—A REGULAR CARBIC JOB.

These big contractors tested the economy of CARBIC before they bought. You may do the same—FREE. Write or send the coupon for *all* the facts.

Carbic Manufacturing Company, Duluth, Minn.: Send me the full story of Carbic Lights and Descriptive Literature.

Name .....

Firm .....

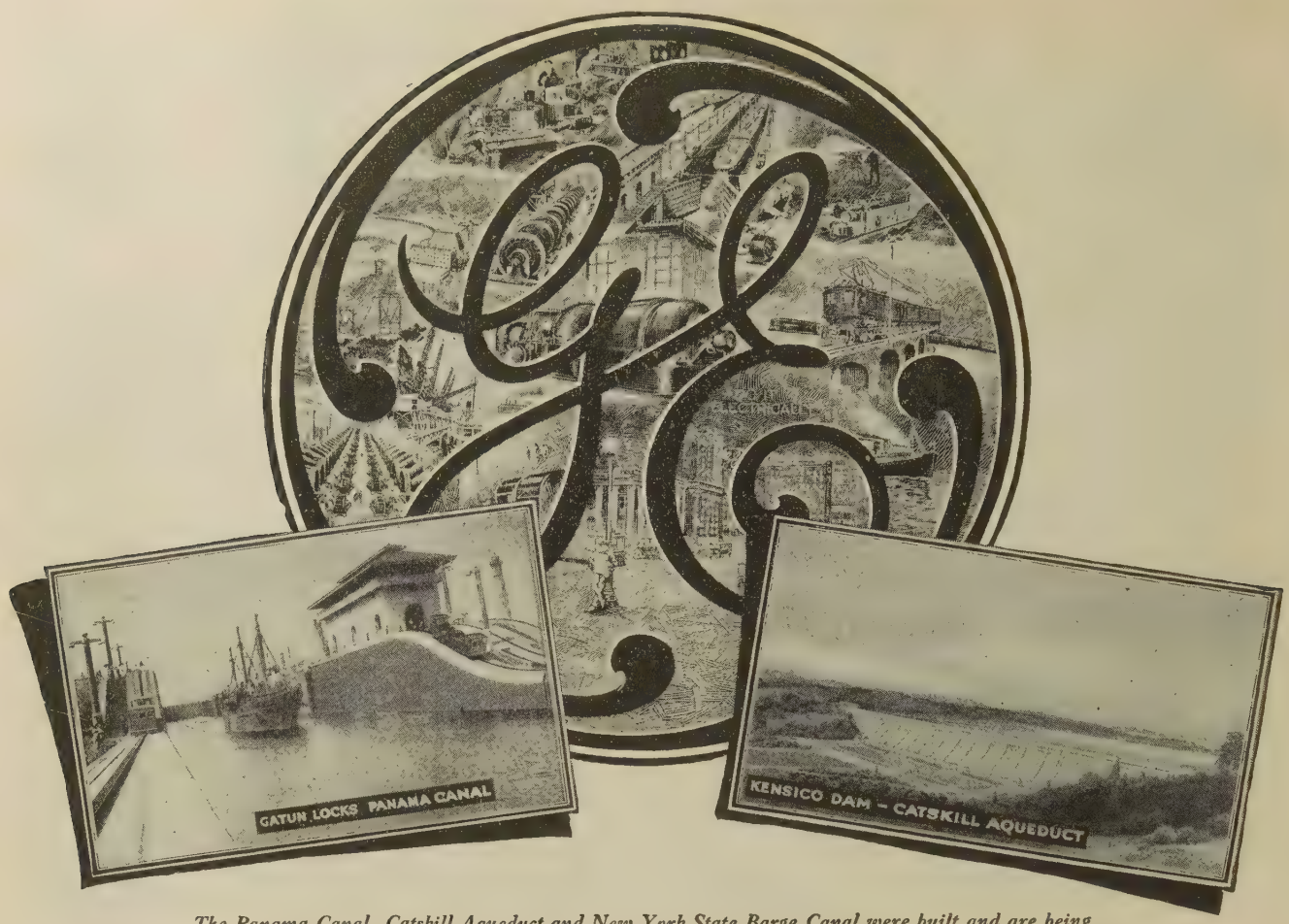
Address .....

E.R.

Carbic Mfg. Co., Duluth, Minn.

BRANCH OFFICES:

New York: 52 Vanderbilt Ave. Chicago: 53 W. Jackson Blvd. Boston: 27 School St. Philadelphia: 18 South 7th St. Warehouses and Representatives in other principal cities. Wire branch office for address of nearest representative.



The Panama Canal, Catskill Aqueduct and New York State Barge Canal were built and are being operated almost exclusively by G-E Apparatus

Inevitably—you will electrify

SOONER OR LATER the advantages of G-E MOTOR DRIVE are going to become so apparent, that you will ask our Engineering Organization to study the conditions and requirements of your plant — just as the owners of the equipment here illustrated asked us to do.

For of course you want to know how you can cut the costs of production—how you can save on your POWER costs—how you can increase the QUALITY of your output, and how you can increase its QUANTITY.

In *every* field of activity where power is used, transmitted or generated, the trademark of G-E Initiative and Quality is found. In power stations of far-off mountains you will find G-E apparatus built to meet the special need. You will find the "G-E" trade-mark on the electrical equipment of the Panama Canal and on the locomotives which tow the ships through. The electrification of the railways which carry the commerce of the nation east and west across the Rockies is a tribute to G-E engineering skill. Manufacturing plants, large and small, in all sections of the country, enjoy marked advantages in production over their competitors because the General Electric Company has solved their power problems. All that has been learned in each individual field of electrical endeavor is transmitted through the great Research Laboratories of the company to its engineers in all departments, so that in the solving of *your* problems *you* may have the benefit of all the knowledge and experience that has gone before.

And because the General Electric Company possesses specific, definite knowledge of all the intricacies, puzzles and problems of industrial power, and applies to their solution the knowledge which no other organization can boast, G-E service is the greatest guarantee of results that you can possibly have. The organization and resources of the General Electric Company stand squarely behind every G-E MOTOR DRIVE to insure satisfactory operation.

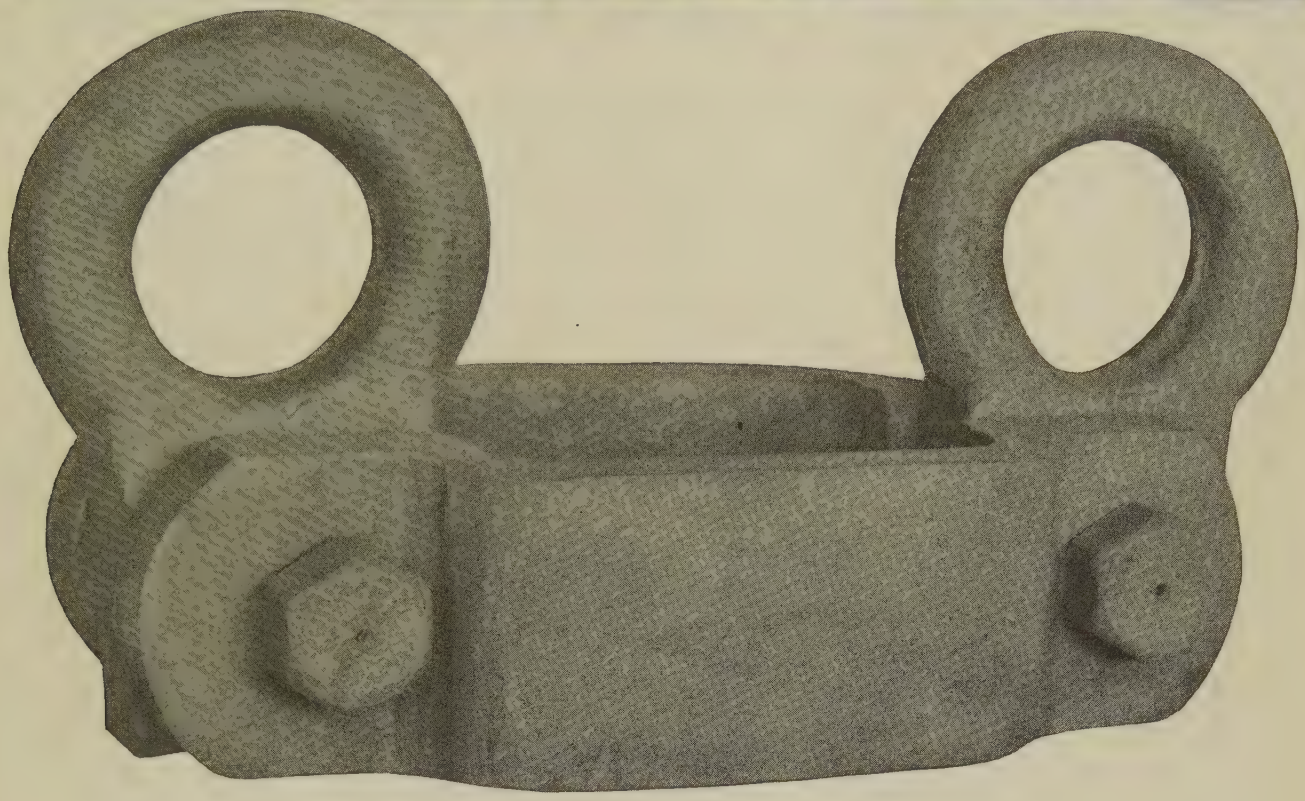
G-E Motor Drive

GENERAL ELECTRIC COMPANY

General Office, Schenectady N.Y. Sales Offices in all large cities

6803

CAMDEN



Decide Now

to send us your forging inquiries. Do not let the above cut lead you to the conclusion that our sole product is Balancing Bands.

We show this picture in order that you may learn what we can make, by the necessity of filling a customer's pressing need. The term

CAMDEN FORGINGS

covers a wide variety of steel and iron forgings.

The appended list in a measure covers our product.

High and Low Carbon Bars
Press Columns and Rams
Pull Back Cylinders
Water Cylinders
Valve Bodies
Plungers
Weldless Steel Rings
Lathe Spindles, solid and hollow bored
Long Feed Screws
Power Press Crank Shafts
Cam Shafts

Eccentric Shafts
Crusher Shafts
Gear and Pinion Blanks
Locomotive: Side and Main Rods; Crank Pins; Axles; Rod Straps; Guides; Parts of frame both in iron and steel
Hammered Iron Bars for locomotive repairs

Marine Shaft
Marine Connecting and Eccentric Rods
Rolls: Bending; Feed; Straightening; Embossing
Large Wrenches
Saw Arbors
Steam Engine Forgings
Pump Crank Shafts
Pump Connecting Rods

Large Nuts
Turbine Shafts
Mill Shafting
Trolley car axles
Electric motor axles

Any forging to your print and specifications, smooth forged, rough machined or finished complete in either iron or steel.

Your inquiries will meet with ready response

CAMDEN FORGE CO.
Fairview Ave., CAMDEN, N. J.

JULY 31, 1915

ENGINEERING RECORD

Beat Scheduled Time Five Months in Building Huge De la Brea Sewer

How Los Angeles Built the Largest and Most Expensive Storm Drain in the West—Inspectors' Records Showing Rapidity with Which Work Was Carried Out

A RECORD in rapid sewer construction work was recently made when the $678,263 De la Brea sewer in Los Angeles, said to be the largest and most expensive storm drain in the West, was ready for use ... ft., 804 ft.; 5 ft. 6 in., 2833 ft. reinforced concrete pipe, 3-ft sections, 34 + diameters, 26,790 ft.; brick 36-in. diameters ...

Four PARSONS Trench Excavators made this record possible

There was 11½ miles of this sewer construction, ranging from 9 inches to 8 ft. diameter. The time was set at 470 days.

The four Parsons Trench Excavators cleaned up the digging 250 days ahead of time, and the sewer was completed 5 *months ahead of the limit date.*

The big reason back of this record is the fact that the PARSONS digs a RANGE OF SIZES. Model "F", for instance, digs widths ranging from 28 inches to 78 inches.

Get the details. Write for the latest literature.

The Parsons Company

210-2nd Street **Newton, Iowa**

Eastern Sales Office: 18 West 34th Street, New York

Agents: W. B. Louer Company, Old Colony Bldg., Chicago, Ill.

Macdonald, Marpole Co., Ltd., Vancouver, B. C.

Norman B. Livermore & Co., Los Angeles—San Francisco, Cal.

The General Supply Co. of Canada, Winnipeg, Toronto, Ottawa.

Everett, Bradt & Co., Houston and Dallas, Tex.

Foreign Representative:

Cyrus Robinson & Co., Ltd., 71 Broadway, New York, and 28 Broadway, Westminster, London, England.

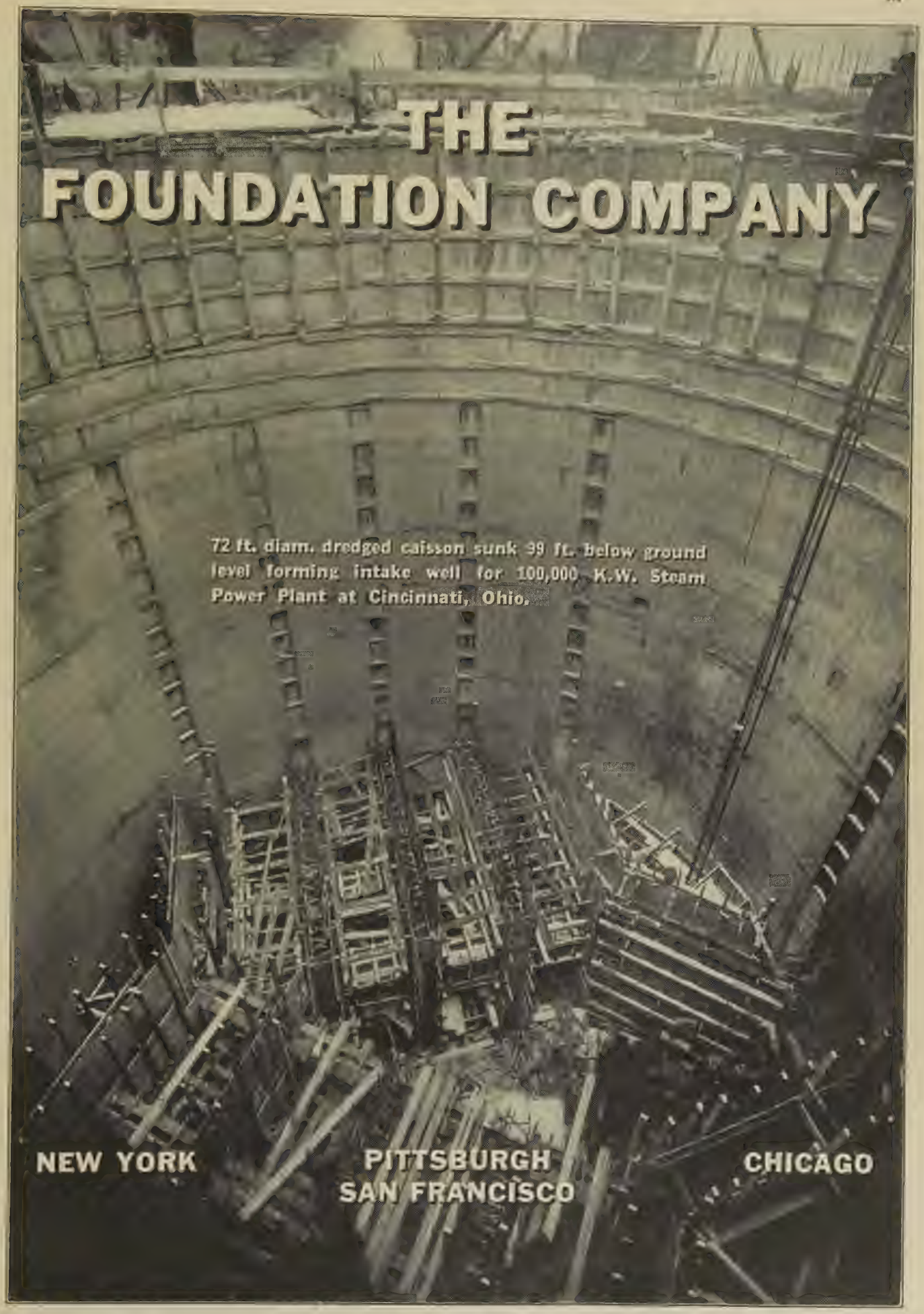
PARSONS BACKFILLER

does the work of a number of teams

Averages 4 big loads a minute—the back-filling cable has a speed of 95 ft. per minute.

Cannot pull over—half a dozen men can sit out at the end of the boom, and the machine holds her balance. Another factor for stability is the low drag pull—entering the machine only 18 in. above ground level.

Scraper adjustable for different soils. "Parco" caterpillar traction.


THE
FOUNDATION COMPANY
72 ft. diam. dredged caisson sunk 99 ft. below ground level forming intake well for 100,000 K.W. Steam Power Plant at Cincinnati, Ohio.
NEW YORK
PITTSBURGH
SAN FRANCISCO
CHICAGO

This rope was ruined by corrosion and internal friction.

As can be seen by the photo, the core is in a decayed condition

The wires of the inner strands are worn almost flat in places and are corroded and pitted almost to the breaking point.

The wires are brittle and could be broken between the fingers.

The rope is of a brownish color due to an accumulation of rust--rust means ruin.

This rope was NOT treated with "Crater"

This rope has done six times the work of the other. It was still in service when the picture was taken.

The center is fresh and pliable. While the crown of the rope is slightly worn due to extreme friction, the inner strands are in a healthy condition.

The rope shows up bright and clear. No rust. No corrosion. Its tensile strength has not been impaired materially.

This rope WAS treated with Texaco Crater Compound.

These ropes were made by the same manufacturer, of identical materials, and used right next to each other.

Their difference in life is due ENTIRELY to Texaco Crater Compound. Throughout this country Texaco Crater Compound is saving hoist ropes from destruction by wear, internal friction and corrosion, whether worked dry or exposed to tainted waters. It is doing this with a great reduction in lubricating expense.

In a booklet called "About Texaco Crater Compound," we tell how and why Crater saves wire rope and other outdoor equipment. It also tells the best way of lubricating wire rope and shows a diagram of a simple and efficacious appliance for this purpose.

Write for the "Crater" Book

THE TEXAS COMPANY

Dept. "ER," 17 Battery Place, New York City

HOUSTON CHICAGO NEW YORK

Offices in Principal Cities

Proving "GUNITE" Waterproof

Visitors to the Cement Gun booth at the Chicago Cement Show expressed great interest in this exhibit.

One bowl was made of ¾" "GUNITE" without reinforcement (and was broken at the edge to show its structure). The other was built up with 1¼" "GUNITE" on wire mesh.

Both were "shot" by Cement Gun on Feb. 9 at 10 A. M. On Feb. 13 at 9 A. M. they were filled with water.

During the two days that they stood at the Cement Show and the succeeding two weeks at our Chicago Office—both proved WATERTIGHT.

We prepared the exhibit simply to give a visible demonstration of the waterproof quality of "GUNITE." "GUNITE" has been used to waterproof Twin Peaks Reservoir, Elephant Butte Dam, the giant multiple-arch Gem Lake Dam and many other important reservoirs.

Yet that is only one phase of the Cement Gun's structural work.

The Big Book tells the whole story. *The coupon brings it FREE.*

Cement Gun Co.

Inc.

South 10th and Mill Sts.

Allentown, Pa.

New York Office 30 Church St.

Byers and Ayers, 1414 Fisher Bldg., Chicago, Ill.; John A. Traylor, New House Bldg., Salt Lake City, Utah; Taylor Engineering Co., 538 Central Bldg., Seattle, Wash.; A. R. Roberts, 727 Traders Bank Bldg., Toronto, Ont., Canada; Taylor Engineering Co., Vancouver, B. C.

CEMENT-GUN

Cement Gun Co., Inc., South 10th and Mill Sts., Allentown, Pa.
Send me the Big Book about the Cement Gun.
Name.....
Address.....
E.R.

HOLD YOUR OWN "LEAK INQUIRY"

It will pay you well to figure some of those small leaks that extend throughout the season.

You'll be surprised at the total when you come to add up the daily loss—

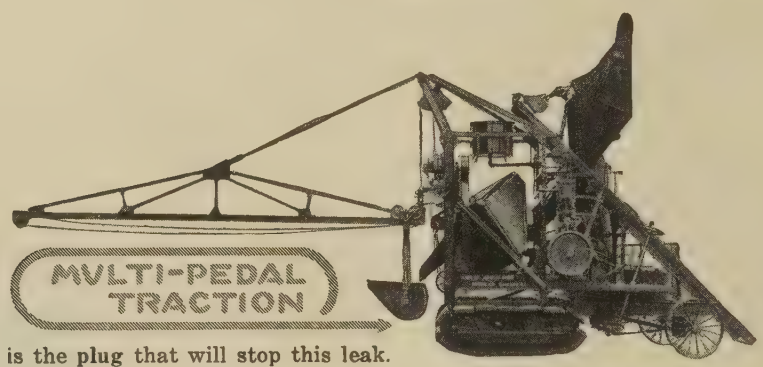
For instance, the time and materials lost in putting down planks on which to run the mixer.

John Cherry, the well known contractor at Jacksonville, Ill., figured this one leak to amount to more than **$1000.00 per year**—and this is the way he figured it.

7 months' work—or 182 days; about half that time the mixer has to traction on planks,—that's 91 days—the mixer moves about on an average of 27 times per day,—that's 2457 moves per season. Average 2 minutes lost every move placing planks, —that's 4914 minutes, or 82 hours.

Payroll average about $10.00 per hour—that's.....	$820.00
About ½ hr. per week average time lost "Stuck in the Mud", 28 weeks = 14 hours,—that's	140.00
Cost last year for planks "ground up" under the mixer was	77.80
Total	$1037.80

(Considerable leak)



is the plug that will stop this leak.
You'll find it on the

AUSTIN CUBE MIXER

together with those other

TRIUMPH FEATURES of Austin Engineering—**Cube Mixing** and the **Full Batch Turn Over Bucket.**

It's needless to add that John Cherry bought two Multipedal Traction Cube-Mixers at the Cement Show. He had figured it out—now **you figure it.**

We desire to give the contractor best possible delivery service, but to do so we require your co-operation. Please let us know your needs well in advance.

Write today for catalog and information.

MUNICIPAL ENGINEERING & CONTRACTING CO.

Main Office: Railway Exchange Bldg., CHICAGO, ILL.

New York Office: 30 Church Street

Concrete for Permanence

New England Agents:
Dyar Supply Co.,
Cambridge, Mass.

West. New York:
Henry W. Littlefield, Buffalo, N. Y.

West. Penna. and East. Ohio:
Empire Engineering & Equipment Co.,
Pittsburgh, Pa.

MEMBER OF NATIONAL ASSOCIATION OF MIXER MNFRS.

E. Canada:
A. A. Scully,
123 Bay St., Toronto

Inter-Mountain District:
H. N. Steinbarger, Denver, Colo.

Pacific Coast:
J. H. Hansen & Co., San Francisco
Howard-Cooper Corp., Portland
F. S. Burbank Co., Seattle

REX MIXER For PERMANENCE in CONCRETE

Rex Paver owned by George J. Markey, Milwaukee, Wis., at work on Milwaukee County Road.

Choose the Size You Need

Whether you mix ten yards or a million, you can find a Rex Mixer that will meet your needs exactly. No need to confine yourself to a small machine if a big fellow will save you time. No need to tie up to a big machine if your jobs are handled more easily with small-batch mixers.

Whatever Rex you buy, you can be sure you're getting a mixer that is right in design and construction. The makers of Rex Mixers have been manufacturing machinery for 25 years and concrete mixers for 9 years. Every part of the Rex, except the engine, is made in the company's own plant.

Rex Mixers are equipped with Rex Chain Drive, the most reliable of any drive used on concrete mixers. Positive as a gear, flexible as a belt, it is more efficient than either.

Send today and get the Rex Catalog No. 71-R showing Rex Models. It will show you the advantages that standardizing on Rex Mixers will give your work.

Chain Belt Company

Established 1891

11th Ave. Viaduct Milwaukee, Wis.

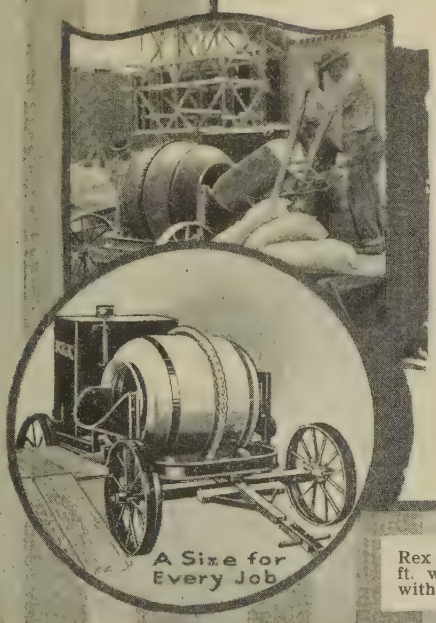
MEMBER OF NATIONAL ASSOCIATION OF MIXER MNFRS.

Chain Belt Company, 30 Church Street, New York City
W. B. Louer Company, Old Colony Building, Chicago

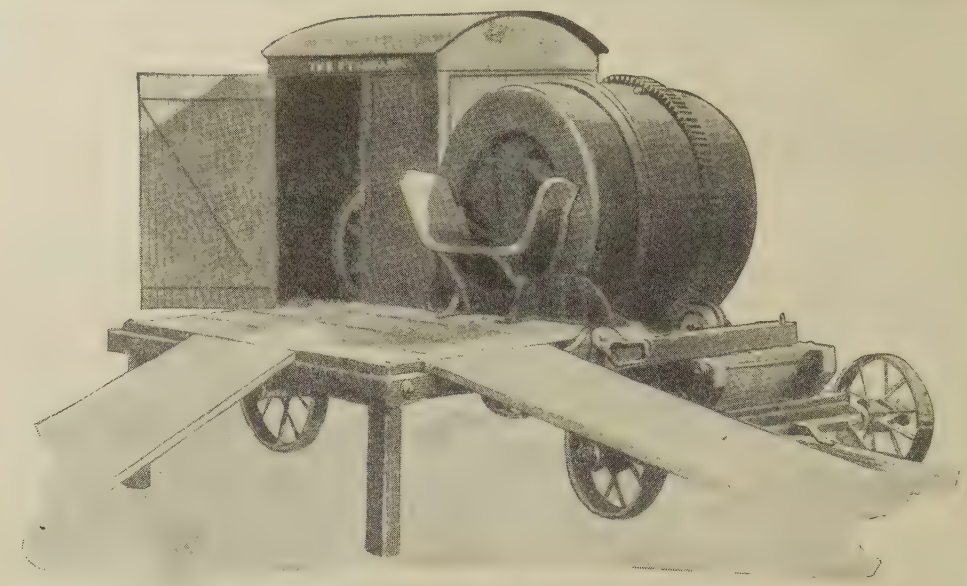
Makers of

Rex Chains for elevating, conveying and transmission
Sprocket Wheels—Gears
Shaft Couplings and Collars
Malleable Elevator Buckets
Rex Concrete Mixers
Rex Paving Mixers
Travelling Water Screens

Write for interesting booklet on any of these



Rex 4-S. Capacity 4 cu. ft. wet mix. Equipped with 3 h.p. Novo Engine.



PERFORMANCE

"The Standard" Mixer delivers concrete at minimum cost and labor due to the low-charging principle on which it is built. The low compact design of "The Standard" makes the use of any kind of a mechanical charging device unnecessary and enables it to be made of the fewest possible parts. The simplicity of construction eliminates the necessity for employing skilled men for its operation.

Unique Charging Principle

"The Standard" Mixers come in units for every use. Machines of small capacity up to machines of very large capacity adapted to the heaviest construction work. They all embody the low-charging principle — which requires only one-half the amount of power needed for operating the mechanical charging type.

Portability

The simple construction of "The Standard" Mixer and the fact that no charging elevator is required, makes it more portable than any other batch mixer of equal capacity. The entire outfit is simple, consists of few working parts, with no excess weight.

Get Our New Mixer Catalogue

It contains 48 pages of useful information—interestingly presented and profusely illustrated with photographs showing "The Standard" Low-Charging Mixer on important jobs. The Catalogue is free. Write to our nearest office today and ask for Catalogue No. 28-4.

"THE STANDARD"
CONCRETE MIXERS

LOW CHARGING

THE STANDARD SCALE & SUPPLY COMPANY

PITTSBURGH 1631 Liberty Avenue
NEW YORK 145 Chambers St.
PHILADELPHIA 523 Arch Street
BALTIMORE 409 N Gay St.
CHICAGO 1345-47 Wabash Ave
CLEVELAND 1547 Columbus Rd.

"Lansing-ize Your 1917 Work!"

—and here are a few reasons!—

We believe in dealing with FACTS—not claims or theories.

Look at the above machine.

The *fact is*—it has the following advantages:

Heavy Boiler-Plate Drum.
Steel Paddles Bolted in Place.
Diamond Roller-Bearing Chain Drive.
Cut Steel Pinions and Sprockets.
Renewable Clutch (Auto Brake Lining).
5-7-10-15 cu. ft. capacities—and one-bag Paver.
Power Loader, Batch or Wheelbarrow Hopper.

And if you want to mix mortar, NOT in a made-over concrete mixer, but in a machine BUILT to give rich, smooth mortar—you can Lansing-ize in this department—the Lansing ADVANCE is the machine you want.

Get ALL the Facts—Send Coupon

LANSING COMPANY
"KEEP YOUR PRODUCT ON WHEELS"

26 CEDAR STREET, LANSING, MICHIGAN, U. S. A.

Or Address Our Nearest Warehouse

BOSTON, 78 Cambridge St., Charlestown District.
MINNEAPOLIS, 517-519 3rd St. N.
PHILADELPHIA, Willow and No. American Sts.
SAN FRANCISCO, 338-348 Brannan St.
CHICAGO, 167-169 West Lake St.
NEW YORK, 288-289 West St.
KANSAS CITY, 1413-1415 W. Tenth St.

LANSING COMPANY: Please send me the LANSING CATALOG 26, and a copy of the GUARANTEE.

Name .....

Address .....

Heavy Duty Construction
is your safeguard against delays

How a breakdown of your concrete mixer can tie up the work! Keep that in mind when you buy a mixer. The most profitable mixer is the one not only able to turn out big number of batches per hour, but the one that can maintain capacity operation without breakdowns and delays—that means *heavy duty construction.*

—that explains the extra heavy channels, and extra number of cross channels of the Koehring main frame, the big margin of over-strength of the superstructure—the elaborate re-enforcing and gusseting of the entire structure.

—and these are reasons why the driving parts of the Koehring cannot be strained out of alignment, why breakdowns are rare occurrences on a Koehring mixer.

That's why the Koehring gives you utter dependability, along with extra yardage.

Write for booklet series D-20.

Koehring Sizes
in cubic feet capacities

Mixers for Construction Work: 10, 12, 15, 20, 24, 30, 44. Equipped with low charging hopper, batch hopper and side loader. Hot Mixers for Bituminous Pavements: 12, 20, 22. Side discharge type and end discharge type.

Paving Mixers: 6, 11, 16, 22. Equipped with distributing boom and bucket or spout.

Gasoline power, Electric power or Steam power.

Koehring Machine Company, Milwaukee, Wis.

Well Mixed Concrete for Permanence

BONANZA CEMENT TILE

"The Roof Tested Tried and True"

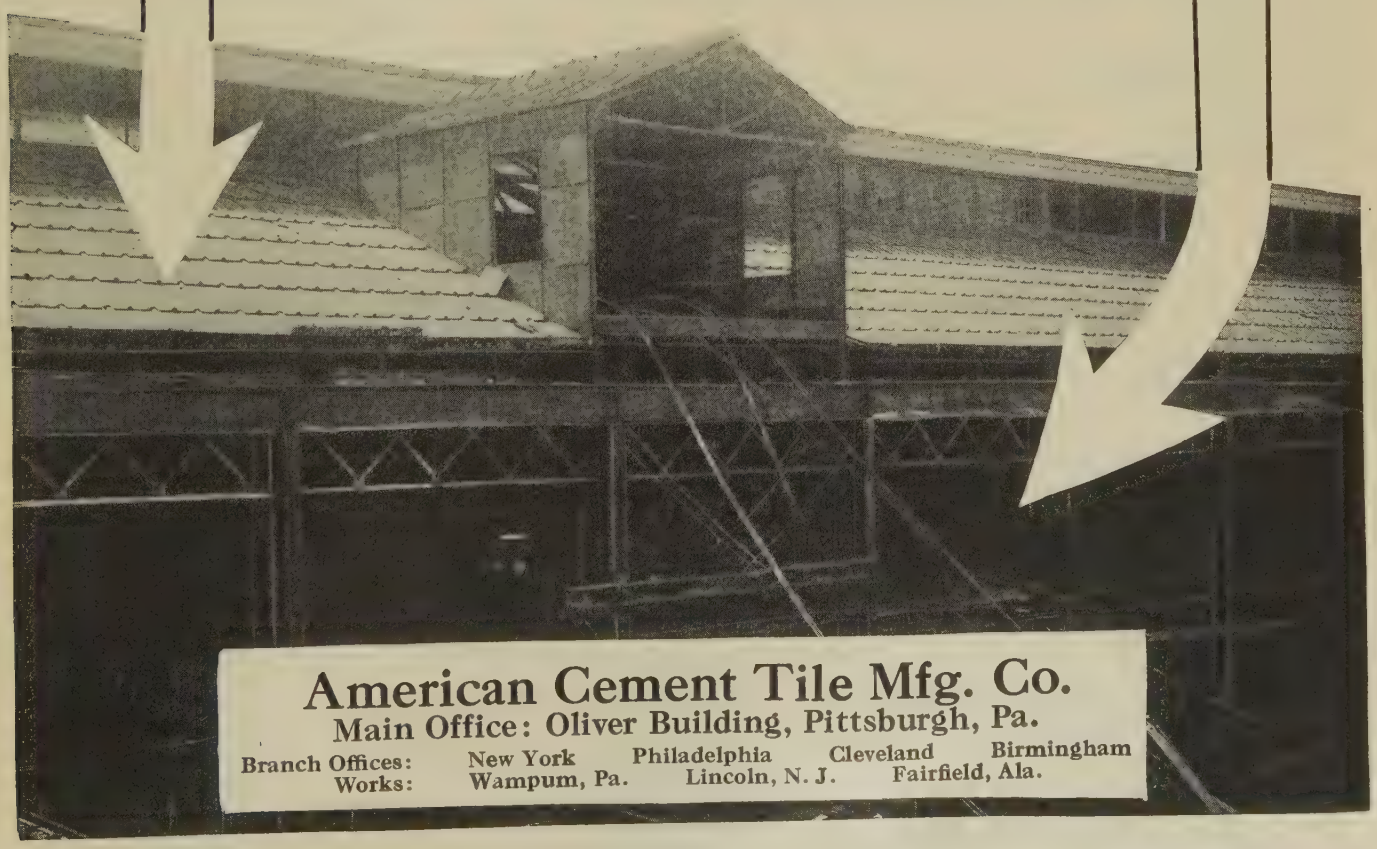
The BONANZA Roof shed the flames like a duck's back sheds water!

TESTED!

Here's the grim evidence of the fire's fury — nothing left but a snarl of metal

This picture is just a fragment of the great mass of EVIDENCE regarding the SERVICE that explains why over 25 MILLION square feet of Bonanza now cover hundreds of important plants. Roofed with Bonanza means roofed for permanence—for this roof has proved that it can be made proof against fire, water, weather and "old age." Installation cost is low, too—the tiles being laid directly on the steel channel purlins without sheathing. Write for the Bonanza Data Book.

"Erected and Guaranteed by Us"



American Cement Tile Mfg. Co.

Main Office: Oliver Building, Pittsburgh, Pa.

Branch Offices: New York Philadelphia Cleveland Birmingham
Works: Wampum, Pa. Lincoln, N. J. Fairfield, Ala.

Erie Revolving Shovels

"I went up to Erie the other day"—

Bill Muldoon Says:

"And the thing that took my eye was the ship-shape look of that big works.

"Out in the erecting shop were some thirty-odd Erie Shovels in various stages of growth.

"Six of them were about ready to roll out for a test. The engines were built in one spot, the cabs at another, and the whole assembled in a place handy to all of them.

"I watched a fellow installing pipes and gages. Almost everything was fitted up ready to place before the helper passed it to him.

"There was a pile of work going through and a big, busy gang at it, but no running around, no confusion, no cluttering up—everything clean and workmanlike and moving like clockwork.

"I've heard a lot of contractors tell about the Erie's good qualities on the job. I know where they come from, now.

"*They're built into her.*"

Bill Muldoon.

Get those Erie Folks to send you Bulletin S-14

BALL ENGINE CO.

ERIE PA

Our Quest Is for the Man Who Wants It Good

The "Cheap Skate" is not our game.

We figure that all the Real Big Men are those who have lived long enough to find out that you get just exactly what you pay for in this world.

AND NO MORE.

And so when it comes to the machine to take stuff up and down stairs,

The machine upon which (next to the engine) the running of the plant depends,

HE WANTS IT GOOD.

Consequently it has turned out that "those old farmers up at Coatesville," the Ridgways, have become "ELEVATOR MAKERS TO THEIR IMPERIAL MAJESTIES, THE BIG FELLERS."

Here is the kind of them:

Standard Oil Co.	H. J. Heinz Co. "57"	International Paper Co.
Yale & Towne Mfg. Co.	International Harvester Co.	E. I. Du Pont & Co.
Cluett, Peabody & Co.	John Wanamaker	General Electric Co.
United Gas Imp. Co.	Remington Typewriter Co.	Packard Motor Car Co.
National Cash Register Co.	Continental Gin Co.	Continental Can Co.
Hammermill Paper Co.	Erie R. R. Co.	Solvay Process Co.
Procter & Gamble Co.	Crane & Co. (Dalton)	John Morrell & Co.

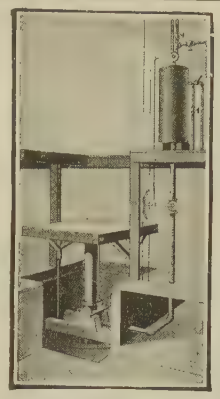
If a man has steam upon his premises and needs elevators, if he does not go and see some Ridgway elevators and "GET WISE" to the machine he ought to go bag his head!

We never ask any man to buy Ridgway elevators. All we ask is that the fellows with steam just get busy and find out what it means to

"Hook 'er to the Biler"

CRAIGE RIDGWAY & SON CO. Coatesville, Pa.

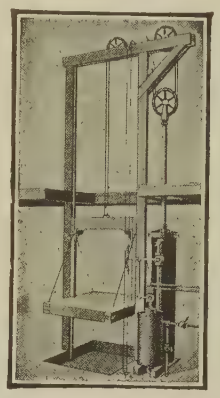
ELEVATOR MAKERS TO FOLKS WHO KNOW

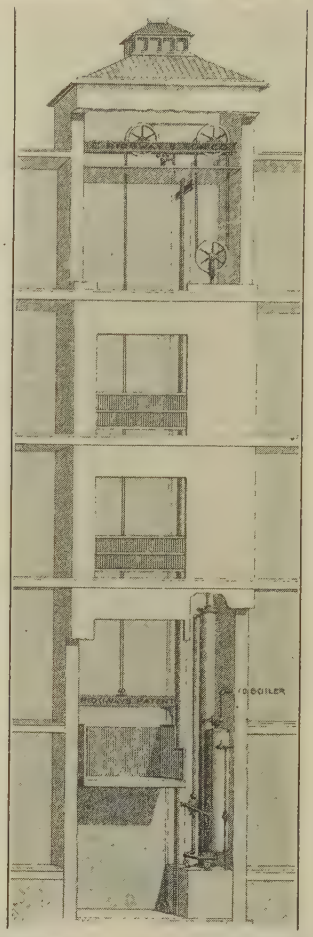


Direct Acting

Over 2000 in Daily Use

Double Geared

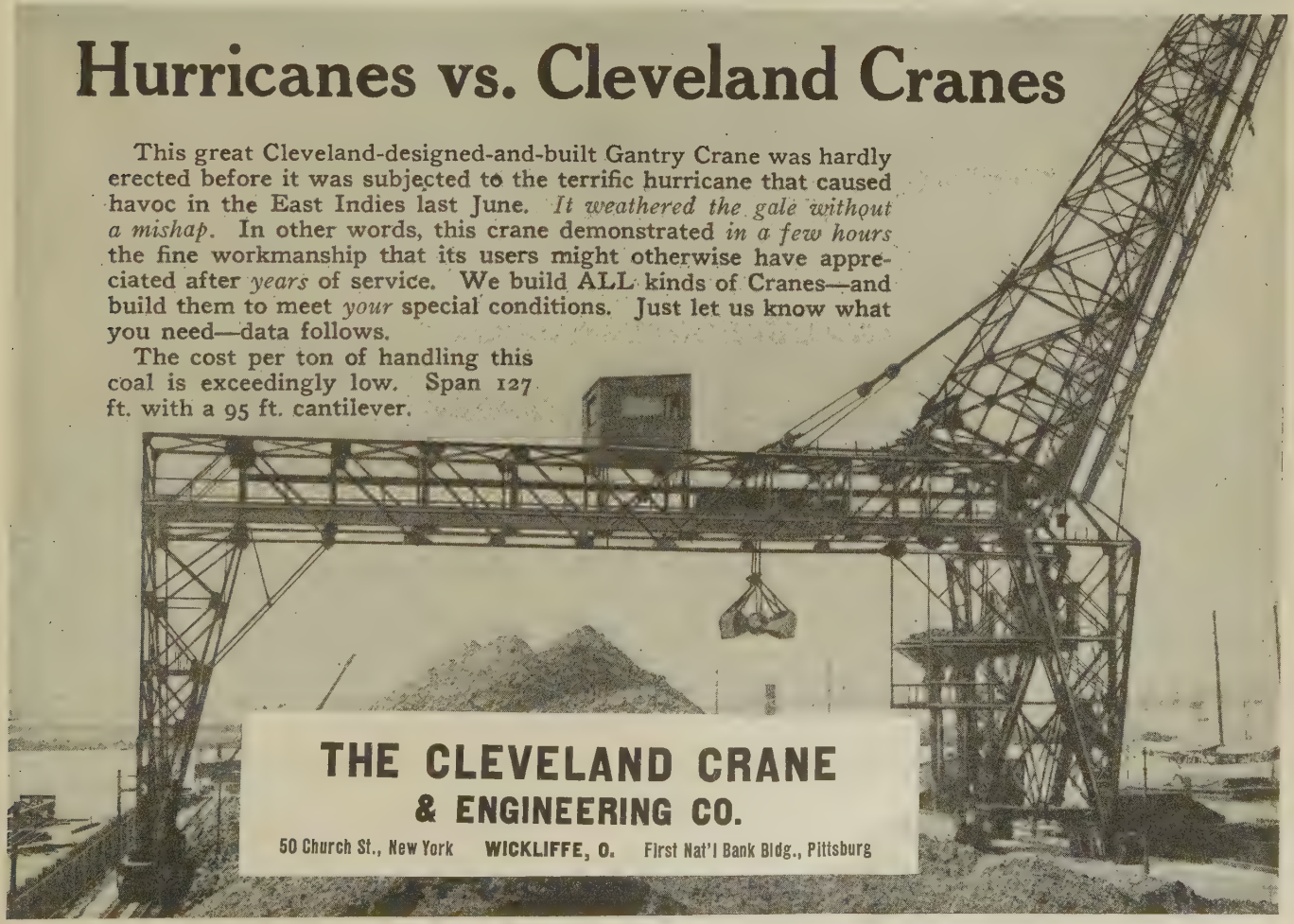




Hurricanes vs. Cleveland Cranes

This great Cleveland-designed-and-built Gantry Crane was hardly erected before it was subjected to the terrific hurricane that caused havoc in the East Indies last June. *It weathered the gale without a mishap.* In other words, this crane demonstrated *in a few hours* the fine workmanship that its users might otherwise have appreciated after *years* of service. We build ALL kinds of Cranes—and build them to meet *your* special conditions. Just let us know what you need—data follows.

The cost per ton of handling this coal is exceedingly low. Span 127 ft. with a 95 ft. cantilever.



THE CLEVELAND CRANE & ENGINEERING CO.

50 Church St., New York WICKLIFFE, O. First Nat'l Bank Bldg., Pittsburg

WHITE TRUCKS

White One and One-Half-Ton Truck Owned by The United Eastern Mining Co., Oatman, Arizona

ONE YEAR WITHOUT REPAIR

The photograph reproduced herewith was recently mailed to us with the following letter from The United Eastern Mining Co., of Oatman, Arizona, who own the truck:

> "Our White Truck has been in operation one year, running practically eight hours a day and on distillate. *It has not been down for repairs an hour during the year.* It seems to me that this is a record to be proud of considering that the truck is being operated on the hardest kind of desert and mountain road with a grade continually one way or another.
>
> Yours truly,
> (Signed) Wallace Keith, Secretary"

Under the racking strain of continuous year-around demands, the White Truck stands up to its work with fewer days off for repairs than any other make of truck of which we have record.

THE WHITE COMPANY, *Cleveland*

Largest Manufacturers of Commercial Motor Vehicles in America

SEARCHLIGHT SECTION

PROPOSALS

Bids open April 16, 1917.

NOTICE TO MATERIAL MANUFACTURERS.

VARIOUS ROAD MATERIALS

FAIRMONT, W. VA.

Sealed bids will be received until 12 o'clock noon, Monday, April 16, 1917, by the County Court of Marion County, W. Va., for the furnishing of stone, slag, gravel, sand and paving brick or block, for the construction of approximately 22 miles of improved roads and streets in Paw Paw District of said Marion County.

Specifications and instructions to bidders are on file in the County Clerk's Office, Fairmont, W. Va.

Certified check in the sum of $200 must accompany each bid.

The County Court reserves the right to reject any or all bids.

A. G. MARTIN,
Clerk of the County Court of Marion County, W. Va.

Bids open April 27, 1917.

NOTICE TO CONTRACTORS.

ROAD CONSTRUCTION

FAIRMONT, W. VA.

Sealed bids will be received until 12 noon, Friday, April 27, 1917, by the County Court of Marion County, W. Va., for the construction of approximately thirty-one miles of improved roads and streets in Lincoln District of said Marion County.

A certified check in the sum of $400 must accompany each bid. Successful bidders will be required to furnish a bond satisfactory to the County Court.

Plans and specifications for this work are on file in the County Clerk's Office Fairmont, W. Va., and at the office of J. R. Wilson at the Court House, Fairmont, W. Va.

The County Court will furnish at least part of the material going into the construction of these roads; details of which can be found in the plans and specifications.

The County Court reserves the right to reject any or all bids.

A. G. MARTIN,
Clerk of the County Court,
Marion County, W. Va.

Bids open April 16, 1917.

NOTICE TO MATERIAL MANUFACTURERS

VARIOUS ROAD MATERIALS

FAIRMONT, W. VA.

Sealed bids will be received until 12 noon, Monday, April 16th, 1917, by the County Court of Marion County, W. Va., for the furnishing of stone, slag, gravel and sand, f.o.b. point of shipment, and paving brick or blocks, f.o.b. Farmington, Downs, Monongah, Worthington, Hutchinson and intermediate points, for the construction of approximately 32 miles of improved roads and streets in Lincoln District of said Marion County.

All material to be furnished according to specifications and contract for same now on file in the Office of the County Clerk at Fairmont, W. Va.

The Court reserves the right to reject any and all bids.

A. G. MARTIN,
Clerk of the County Court.

PROPOSALS

Bids open April 4, 1917.

NOTICE TO CONTRACTORS.

HIGHWAY WORK

MARSHALL, MICH.

The Board of Road Commissioners of Calhoun County, Mich., will receive bids at their office at the Court House at Marshall, Mich., until 1.30 o'clock, April 4, 1917, for the construction of 5.765 miles of pavement 18 ft. wide, of cement-concrete, bituminous concrete or brick on concrete foundation and 1800 lin. ft. of 16-ft. gravel on Territorial Road, between the cities of Marshall and Albion. Plans and specifications are on file at the office of the County Clerk and at the office of the County Engineer, 303 Ward Building, Battle Creek, Mich. Bids must be accompanied by certified check for $1,000, and are to be made on blanks furnished by said Board. Said Board reserves the right to reject any or all bids.

BOARD OF COUNTY ROAD COMMISSIONERS,
By GEO. R. PEET,
Chairman.

New Rate for Proposals

The April 5 issue of Engineering News-Record will have the combined circulation of the Engineering News and Engineering Record.

The price for Proposal advertising in each of the constituent papers has remained for 30 years at $2.40 an inch.

The rate for Proposals in the combined paper will be

$3.60 an inch

Your Proposal advertisements in Engineering News-Record will be seen by practically every worthwhile contractor in entire country.

ENGINEERING NEWS-RECORD
10th Ave. at 36th Street
New York

Bids open April 10, 1917.

FILTER PLANT

INDIANOLA, IOWA.

Sealed proposals will be received up to 5 o'clock p. m., April 10, 1917, by E. P. Wright, City Clerk, Indianola, Iowa, for the erection of a filter plant for the North sewerage system of Indianola, Iowa.

Plans on file with City Clerk. Also may be seen at the office of the State Board of Health, State House, Des Moines, or with the Engineer at his office, Indianola, Iowa. Certified check for 10 per cent of bid.

E. P. WRIGHT,
City Clerk.

A. H. GILLILAND, C. E.,
Designing and Consulting Engineer.

PROPOSALS

Bids open May 4, 1917.

NOTICE TO BRIDGE CONTRACTORS

STEEL BRIDGES

CLIFTON, ARIZ.

Notice is hereby given that bids for the construction of two steel bridges over the San Francisco River will be received by the Town Council of Clifton, Ariz., until the hour of 8 o'clock p. m. on Friday, the 4th day of May, 1917, at which time and date said bids will be opened and considered.

Bridge No. 1—Two 160-ft. spans, two 20-ft. spans, 20-ft. roadway, 5-ft. walkways, wood block floor. Bridge No. 2—One 210-ft. span, 18-ft. roadway, 5-ft. walkways, wood block floor.

Plans showing the locations and profiles of the bridge sites, together with general specifications, may be had by application to A. J. Kerr, Town Engineer, Clifton, Ariz., when accompanied by a deposit of $10.00, which deposit will be refunded if the applicant files a bona fide bid for the construction of one or both bridges, or upon safe return of the plans and specifications.

Prospective bidders are directed to prepare their own general plans and supplementary specifications, upon which their bids will be based, and file same with bid; all plans, except those of the successful bidder, will be returned after contract is awarded.

All bids received for the construction of said bridges shall be accompanied by a certified check drawn on a trust company or bank organized under the state or national laws and acceptable to the Town Council, in the sum of $2,000.00 for each bridge, and all such certified checks accompanying bids which are not accepted and which are rejected, shall be returned to the parties tendering the same. The certified checks so deposited by the successful bidder shall be retained by the said Town Council and shall be forfeited in the event that such bidder shall not carry out the terms of the contract provided herein to be entered into. Each bidder shall state in his bid the date of completion of each or both bridges.

The Town Council reserves the right to reject any and all bids, or to accept any bid for one or both bridges, which, in their opinion, best serves the interest of the Town of Clifton.

Bids must be enclosed in a sealed envelope, marked "Bid for Construction of Bridges," and filed with the Town Clerk on or before the hour and day above mentioned.

Dated this the 21st day of March, 1917.

Town Council of the Town of Clifton,

O. J. COTEY, Mayor.

MAT DANENHAUER, Clerk.

Bids open April 12, 1917.

CONCRETE HIGHWAY PAVING

GREENVILLE, MISS.

The Highway Commissioners of Washington County, Miss., will receive at their office in Greenville, Miss., on Thursday, April 12, sealed proposals for the surfacing with concrete of approximately eight hundred and thirty thousand (830,000) sq. yd. of highways according to plans and specifications on file. For information apply to J. S. Allen, Chief Engineer, Greenville, Miss.

J. S. ALLEN.

SEARCHLIGHT SECTION

PROPOSALS

Bids open April 6, 9, 11 and 13, 1917.

HIGHWAY IMPROVEMENTS

OFFICE OF THE STATE COMMISSION OF HIGHWAYS.

ALBANY, N. Y.

Sealed proposals will be received by the undersigned at their office, No. 55 Lancaster Street, Albany, N. Y., at 1 o'clock p. m., on Friday, the 6th day of April, 1917, for the repair of highways in the following counties:

Albany (one contract—Reconstruction).
Broome (one contract—Surface Treatment).
Cayuga (one contract—Resurfacing).
Chenango (one contract—Surface Treatment).
Clinton (one contract—Resurfacing).
Cortland (one contract—Resurfacing).
Dutchess—(one contract—Reconstruction).
Erie (one contract—Surface Treatment).
Jefferson (one contract—Surface Treatment).
Monroe (two contracts—Reconstruction and Resurfacing).
Oneida (two contracts—Resurfacing and Surface Treatment).
Onondaga (two contracts—Resurfacing).
Oswego (one contract—Resurfacing).
Rensselaer (one contract—Resurfacing).
Saratoga (one contract—Resurfacing).
Schenectady (one contract—Resurfacing).
Tompkins (one contract—Resurfacing).

Sealed proposals will also be received by the undersigned on Monday, the 9th day of April, 1917, for the repair of highways in the following counties:

Albany (one contract—Reconstruction).
Chemung and Yates (one contract—Surface Treatment).
Chenango (one contract—Resurfacing).
Dutchess (one contract—Resurfacing).
Essex (one contract—Resurfacing).
Fulton (one contract—Resurfacing).
Genesee, Livingston, Monroe and Wyoming (one contract—Surface Treatment).
Lewis (one contract—Surface Treatment).
Livingston (one contract—Resurfacing).
Montgomery (one contract—Resurfacing).
Oneida (one contract—Surface Treatment).
Otsego (one contract—Surface Treatment).
Onondaga (one contract—Resurfacing).
Orleans (one contract—Resurfacing).
Rensselaer (one contract—Resurfacing).
Schoharie (one contract—Surface Treatment).
Schuyler (one contract—Resurfacing).
Schuyler, Tioga & Tompkins (one contract—Surface Treatment).
Ulster (one contract—Reconstruction).
Washington (one contract—Surface Treatment).

Sealed proposals will also be received by the undersigned on Wednesday, the 11th day of April, 1917, for the repair of highways in the following counties:

Albany (one contract—Reconstruction).
Allegany and Steuben (one contract—Surface Treatment).
Cattaraugus and Chautauqua (one contract—Surface Treatment).
Chenango (one contract—Resurfacing).
Delaware (one contract—Resurfacing).
Greene (one contract—Reconstruction).
Monroe, Livingston and Ontario (one contract—Surface Treatment).

PROPOSALS

Madison (one contract—Surface Treatment).
Monroe (one contract—Reconstruction).
Montgomery (one contract—Surface Treatment).
Nassau (one contract—Resurfacing).
Onondaga (two contracts—Resurfacing).
Ontario (one contract—Resurfacing).
Orleans (one contract—Resurfacing).
Otsego (one contract—Surface Treatment).
Rensselaer (one contract—Reconstruction).
Steuben (one contract—Resurfacing).
Suffolk (one contract—Surface Treatment).
Ulster (one contract—Resurfacing).

Sealed proposals will also be received by the undersigned on Friday, the 13th day of April, 1917, for the repair of highways in the following counties:

Cayuga, Cortland, Otsego and Seneca (one contract—Surface Treatment).
Franklin and St. Lawrence (one contract—Surface Treatment).
Greene (one contract—Surface Treatment).
Herkimer (one contract—Surface Treatment).
Livingston (one contract—Resurfacing).
Monroe and Orleans (one contract—Surface Treatment).
Monroe and Ontario (one contract—Surface Treatment).
Montgomery (one contract—Resurfacing).
Otsego (one contract—Resurfacing).
Otsego and Delaware (one contract—Surface Treatment).
Rensselaer (one contract—Resurfacing).
Seneca (one contract—Resurfacing).
Steuben (two contracts—Resurfacing).
Sullivan (one contract—Resurfacing).
Tioga and Chemung (one contract—Resurfacing).
Washington (two contracts—Resurfacing and Surface Treatment).
Wayne (one contract—Resurfacing).
Yates (one contract—Resurfacing).

Maps, plans, specifications and estimates may be seen and proposal forms obtained at the office of the Commission in Albany, N. Y., and also at the office of the Division Engineers in whose divisions the roads are to be improved. The addresses of the division engineers and the counties in which they are in charge will be furnished on request.

The especial attention of bidders is called to "General Information for Bidders" in the itemized proposal, specifications and contract agreement.

EDWIN DUFFEY,
Commissioner.

I. J. MORRIS,
Secretary.

Bids open April 3, 1917.

NOTICE TO BRIDGE BUILDERS.

STEEL AND CONCRETE BRIDGE

WALKER, MINN.

Sealed bids will be received by the County Boards of Cass and Wadena counties at a joint session at the office of the County Auditor of the County of Cass, at the Court House in the Village of Walker, Minn., until 11 o'clock a. m., April 3, 1917, for building State Bridge No. 2384, located on the Judicial Road on the county line between Cass and Wadena counties where the Crow Wing River crosses said line on

PROPOSALS

the east side of the southeast quarter of section thirteen, township 134, range 33, about four miles north of Staples, Minn.

The superstructure will be three 80-ft. spans, 18-ft. roadway, concrete floor on concrete foundations.

Distance from bottom of floor to bottom of foundations, 15 ft. and 5 in.

Each bid or proposal must be accompanied by cash or certified check for not less than 5 per cent of the amount of the bid, payable to the County Treasurer of Cass or Wadena County.

All bids must be upon blank forms furnished by the undersigned or Highway Commission.

Plans and specifications may be seen at the office of the County Auditor of Cass County, the office of the Auditor of Wadena County, or at the office of the State Highway Commission, St. Paul, Minn.

The Boards reserve the right to accept or reject any proposal.

C. D. BACON,
County Auditor,
Cass County, Minn.
EUGENE BOSS,
County Auditor,
Wadena County, Minn.

Bids open April 14, 1917.

NOTICE TO CONTRACTORS.

ROAD CONSTRUCTION AND MATERIALS

ANN ARBOR, MICH.

Sealed proposals will be received by the Board of District Road Commissioners at the Washtenaw County Court House, Ann Arbor, Mich., up to 1 o'clock p. m., of the 14th day of April, 1917, for the furnishing of all materials, and the construction of state reward gravel roads, and slag bottom and gravel top roads, including grading, culverts, and guard rail, for approximately seven and a half miles of highway.

The detailed plans and specifications under which the work is to be done may be examined at the office of the County Clerk of Washtenaw County, or at the office of John J. Cox, Engineer for the Board of District Road Commissioners.

A cash deposit or certified check equal to at least five per cent (5%) of the amount bid must accompany each proposal.

The Commissioners reserve the right to reject any and all bids to waive defects, and to accept any bid in whole or in part.

JOHN J. COX,
Engineer.

TREASURY DEPARTMENT, SUPERvising Architect's Office, Washington, D. C., March 23, 1917.—Sealed proposals will be opened in this office at 3 p. m., May 4, 1917, for the extension, remodeling, etc., of the United States post office and courthouse at Chattanooga, Tenn. Drawings and specifications may be obtained from the custodian at Chattanooga, Tenn., or at this office, in the discretion of the Supervising Architect. JAS. A. WETMORE, Acting Supervising Architect.

OFFICE OF THE COMMISSIONERS, D. C., March 26, 1917.—Sealed Proposals will be received at this office, Room 509, District Building, until 2 o'clock P. M., on April 9, 1917, for the construction of sewers in the District of Columbia, involving the construction of approximately 12,000 linear feet of pipe and masonry sewers, 10" to 9'3" diameter. Forms of proposals, specifications and necessary information may be obtained from the Chief Clerk, Engineer Department, Room 427, District Building, Washington, D. C. OLIVER P. NEWMAN, LOUIS BROWNLOW, CHARLES W. KUTZ, Commissioners, D. C.

SEARCHLIGHT SECTION

PROPOSALS

Bids open April 9, 1917.

NOTICE TO CONTRACTORS

GRADING, PAVING AND CURBING

APOLLO, PA.

Sealed proposals for grading, paving and curbing of Armstrong Avenue, North Ninth Street, Railroad Street, Grace Street, North Second Street and South Fourth Street, in the Borough of Apollo, Pa., will be received by the Secretary of said borough until 8 p. m., April 9, 1917, at which time they will be publicly opened.

Proposal must be on forms to be obtained from the Borough Secretary. It is the present intention to pave with brick, but proposals for other paving will also be considered. The Borough Council reserves the right to reject any or all proposals.

BURGESS AND TOWN COUNCIL OF THE BOROUGH OF APOLLO, PA.
STERLING G. McNEES,
Secretary.

Bids open April 10, 1917.

GRIT CHAMBER

BUREAU OF SURVEYS,
DEPARTMENT OF PUBLIC WORKS,
PHILADELPHIA, PA.

Sealed proposals will be received at Room 216, City Hall, until 12 o'clock noon, on Tuesday, April 10, 1917, and opened at that time in Room 412, City Hall, for Grit Chamber, north of Lycoming Street and West of "O" Street, including:

Contract 16—Construction of a Reinforced Concrete Grit Chamber with Inlet and Outlet Sewers and a Superstructure.

Contract 16A—Machinery and Equipment.

Contract 16B—Electric Wiring and Fixtures.

Contract 16C—Plumbing.

Contract 16D—Heating and Incinerator.

Contract 16E—Ventilating.

Inquire at Room 534, City Hall, Phila., Pa., or see drawings and specifications in office of Engineering Record, New York.

GEORGE E. DATESMAN,
Director.

March 16, 1917.

Bids open April 6, 1917.

NOTICE TO CONTRACTORS

DRAINAGE DITCH

CLEAR LAKE, S. D.

Notice is hereby given that sealed bids will be received by the Board of County Commissioners of Deuel County, S. D., at the office of the County Auditor, in the City of Clear Lake, at any time prior to 2 o'clock p. m., April 6, 1917, for the construction of drainage ditch known as the "Anderson Drainage Ditch," in said Deuel County, and for laying the tile therefor, in accordance with the plans and specifications on file in the office of said County Auditor. Such bids will be opened and considered by said Board of County Commissioners on April 6, 1917, at 2 o'clock p. m.

Each bid must be accompanied by a certified check for three per cent of the amount of the bid, payable to J. H. Lunde, Chairman of the Board of County Commissioners of Deuel County, S. D., as a guarantee that the bidder will enter into contract should it be awarded to him.

Said Board of County Commissioners reserves the right to reject any and all bids as may be deemed advisable; and the accepted bidder shall furnish an approved bond to the full amount of the contract price, from some reputable surety company doing business in this state, to guarantee the faithful performance of the whole of the specified work, and for the protection of any party or parties furnishing labor or material.

Dated at Clear Lake, S. D., this 12th day of March, A. D. 1917.

BOARD OF COUNTY COMMISSIONERS OF DEUEL COUNTY, S. D.
By J. H. LUNDE, Chairman.
Attest: J. M. WOLD, County Auditor.
(Seal).

Get Your Copy in Early

Owing to the consolidation of Engineering News and Engineering Record and the longer time required to print, bind and mail the increased edition, all copy for Proposals, Wants and other Searchlight Advertisements should be in hand by

Tuesday Night

The "Big Issue" will be out on Thursday morning.

ENGINEERING NEWS-RECORD
10th Ave. at 36th Street
New York

Bids open April 2, 1917.

NOTICE TO CONTRACTORS.

HORSE EXHIBIT BUILDING

SYRACUSE, N. Y.

Sealed proposals for horse exhibit building, construction, structural steel, horse stalls, plumbing and electric work at the New York State Fair at Syracuse, N. Y., will be received by the State Fair Commission, 428 South Salina Street, Syracuse, N. Y., until 10 o'clock a. m., on Monday, April 2, 1917, when they will be publicly opened and read. Proposals shall be enclosed in an envelope furnished by the State Architect, sealed and addressed, and shall be accompanied by a certified check in the sum of five per cent (5%) of the amount of proposal. Contractors to whom awards are made will be required to furnish surety company bond in the sum of fifty per cent (50%) of the amount of contract within thirty (30) days after official notice of award of contract, and in accordance with the terms of specifications Nos. 2708, 2715, 2716, 2717 and 2718. The right is reserved to reject any or all bids. Drawings and specifications may be consulted at the office of the State Fair Commission, 428 South Salina Street, Syracuse, N. Y., at the New York office of the Department of Architecture, Room 1224, Woolworth Building, and at the Department of Architecture, Capitol, Albany, N. Y. Drawings and specifications and blank forms of proposal may be obtained at the Department of Architecture, Capitol, Albany, N. Y., upon reasonable notice to and in the discretion of the State Architect, Lewis F. Pilcher, State Capitol, Albany, N. Y.

Dated: March 12, 1917.

Bids open May 1, 1917.

DRAINAGE AND PUMPING STATION

QUINCY, ILL.

Notice is hereby given that sealed proposals will be received by the Commissioners of the Indian Grave Drainage District at the office of Secretary, L. H. A. Nickerson, Quincy, Ill., on the 1st day of May, A.D. 1917, at 11.00 o'clock a. m., for the construction and equipment of a drainage pumping plant, consisting of one brick building on a concrete foundation (with residence in second story), equipped with one 54 inch and one 36 inch centrifugal pump to be driven by electric motors, oil engines or steam engines, also suction bay and discharge pipes and other necessary appurtenances.

Detailed plans have been prepared for an electrically driven plant and general specifications for an oil driven and steam driven plant. The same may be seen at the office of the engineer, W. P. BUSHNELL, Quincy, Ill., and at the office of this paper. Copies of said plans, etc., may be had by depositing $10.00 with the engineer.

Each bidder will be required to deposit with his bid a certified check or security bond in some approved surety company for 10% of the amount thereof as a forfeit in case of failure of such bidder to enter into the required contract and give the required bond for the faithful execution of such contract, should the work be awarded to him.

WILLIAM A. GREISER,
W. R. McCORMICK,
L. H. A. NICKERSON,
Commissioners of the Indian Grave Drainage District.
March 17, 1917.

Bids open April 10, 1917.

LEGAL NOTICE

SANITARY SEWERS

WITH APPURTENANCES
JOHNSTOWN, PA.

Sealed proposals will be received at the office of the Supt. of Streets and Public Improvements, City Hall, Johnstown, Pa., until 12 o'clock noon of April 10, 1917, for the construction of sanitary sewers with their appurtenances in Section No. 2: 2 siphon chambers, 4 42" sq. gates and stands, 76+ lin. ft. 39" R. C. P. (in siphon), 5100+ lin. ft. 63" R. C. P. (main sewer), 2500+ lin. ft. 8" T. C. P. (rider sewer), 4 plain manholes, 8 special manholes. Plans, specifications and blank proposals can be obtained at the office of the Sanitary Engineer in the City Hall, Johnstown, Pa., upon payment of a deposit of $5.00. This deposit will not be returned unless a bid is submitted.—C. P. Collins, San. Engr.

All proposals must be made on the printed forms, as none other will be accepted.

The city reserves the right to reject any or all bids.

By order of the SUPT. OF STREETS AND PUBLIC IMPROVEMENTS.

PROPOSALS FOR STONE RIPRAP.—U. S. Engineer Office, Detroit, Mich. Sealed proposals will be received here until 11 a. m., Eastern time, April 16, 1917, and then opened, for furnishing and placing stone riprap along the lake faces of the main and south breakwaters at Harbor Beach, Mich. Further information on application.

SEARCHLIGHT SECTION

PROPOSALS

Bids open April 16, 1917.

TENDERS FOR 48-INCH AND 60-INCH CAST IRON PIPES, SPECIALS, AND VALVES

GREATER WINNIPEG WATER DISTRICT

WINNIPEG, MANITOBA, CANADA.

Sealed tenders addressed to the undersigned will be received up to noon on Monday, April 16, 1917, for the supply of approximately 12,000 ft. of 48-in. and 1300 ft. of 60-in. cast-iron pipes, together with numerous specials and gate valves.

Specifications and form of tender and of contract may be had upon application to the offices of the district.

The lowest or any tender not necessarily accepted.

R. D. WAUGH,
Chairman of Commissioners.
501 Tribune Building,
Winnipeg, Manitoba, Canada.
March 13, 1917.

Bids open April 19, 1917.

FLOOD PREVENTION PROJECT

CONTRACT NO. 1

CITY OF LEBANON, PA.

Sealed proposals directed to the City Clerk will be received by the Mayor and Council of the City of Lebanon, Pa., at the City Hall until 5 p. m., Thursday, April 19, for the furnishing of all labor and materials required to construct Contract No. 1 of Lebanon's Flood Prevention Project.

The work consists of channel straightening and lining with reinforced concrete, reinforced concrete culverts, and bridges.

The approximate quantities involved are:

26,000 cu. yd. of excavation.
4,500 cu. yd. of concrete.
200,000 lb. of reinforcement.
90,000 lb. of structural steel.

Plans, proposal blanks and information concerning the manner of submitting bids can be obtained at the office of the City Engineer of Lebanon, Pa., after the 4th day of April, upon making a deposit of $5. This deposit will be refunded upon return, to the City Engineer, of the plans and specifications in good condition.

A certified check for $6,000 must accompany each proposal.

Mayor and Council distinctly reserve the right to reject any or all bids and to award the contract as is deemed to the best interests of the City of Lebanon, Pa.

PAUL A. VOLCKER,
City Engineer.
DAN. M. SHARP,
City Clerk.

PROPOSALS FOR DREDGING.—U. S. Engineer Office, Boston, Mass.—Sealed proposals for dredging in Weymouth, Fore River, Mass., will be received here until 12 m., April 18, 1917, and then opened. Further information on application.

OFFICE, COMMISSIONERS, DISTRICT of Columbia, Washington, March 22, 1917. Sealed proposals will be received at the office of the Secretary of the Board of Commissioners, Room 509, District Building, until 2 o'clock p. m., April 5, 1917, for grading and paving alleys in the District of Columbia, with asphalt block, vitrified block and cement concrete. Forms of proposals, specifications and necessary information may be obtained from the Chief Clerk, Engineer Department, Room 427, District Building. Oliver P. Newman, Louis Brownlow, Chas. W. Kutz, Commissioners, D. C.

PROPOSALS

Bids open April 6, 1917.

STORM SEWERS WITH APPURTENANCES

CITY ENGINEER'S OFFICE,
ERIE, PA.

Sealed proposals will be received by the City Council of the City of Erie, up to 10.30 o'clock a. m., April 6, 1917, for the construction of storm sewers with their appurtenances as follows:

140 lin. ft. 4 in x 5 in. reinforced concrete tube.
130 lin. ft. 40-in. reinforced concrete sewer.
2920 lin. ft. of sewer (2 lines 36-in. D. S. tile pipe).
1610 lin. ft. of sewer (2 lines 30-in. D. S. tile pipe).
700 lin. ft. 24-in. D. S. tile pipe.

Proposals shall be accompanied by a certified check, payable to the City Treasurer in the sum of 10 per cent of the amount of the bid.

Detailed plans and specifications can be had from the undersigned.

The right is reserved to reject any or all bids, and to waive defects in form.

FAULKNER G. LYNCH,
City Engineer.
March 17, 1917.

Bids open April 11, 1917.

NOTICE TO CONTRACTORS.

CONCRETE PAVEMENT

GREENWICH, CONN.

Sealed proposals for about 17,000 sq. yd. of concrete pavement will be received by the Highway Commission of the Town of Greenwich, Conn., at the office of the Superintendent of Highways in the Town Hall, until 4 p. m., on Wednesday, April 11, 1917.

Plans and specifications can be seen and blank forms of proposal obtained at the office of the Engineer, Room 5, Greenwich Trust Co. Building, Greenwich, Conn. The right is reserved to reject all bids.

LUKE VINCENT LOCKWOOD,
Chairman;
WILLIAM F. DECKER,
ROBERT L. CHAMBERLAIN,
F. HARRIS NICHOLS,
JOHN MAHER,
NATHANIEL A. KNAPP,
Highway Commission.
March 28, 1917.

PROPOSALS FOR DREDGING.—U. S. Engineer Office, Savannah, Ga.—Sealed proposals will be received here until 12 o'clock, noon (Eastern Standard Time), April 14, 1917, and then opened, for dredging harbor at Savannah, Ga., 21-ft. channel. Further information on application.

UNITED STATES ENGINEER OFFICE, Room 710, Army Building, 39 Whitehall Street, New York, N. Y. Sealed proposals for building one two-story eight-room stucco Lock Master's House at the Lock, Hudson River, at Troy, N. Y., will be received at this office until 12 o'clock noon, April 13, 1917, and then publicly opened. Information on application.

PROPOSALS FOR BUILDING AND REpairing Dikes.—U. S. Engineer Office, Little Rock, Ark.—Sealed proposals for building two dikes and repairing five others in Arkansas River near Little Rock, Arkansas, will be received at this office until 11 A. M., April 25, 1917, and then opened. Information on application.

PROPOSALS

Bids open April 20, 1917.

WATER WORKS, SEWERAGE SIDEWALKS

BEAUFORT, N. C.

Sealed proposals will be received by the Mayor and Board of Aldermen of the Town of Beaufort, N. C., at the Town Hall in Beaufort, N. C., until 4 p. m., April 20, 1917, for water works, sewerage and sidewalks.

The work will consist of 750 g. p. m. steam pumping station, deep well, reservoir, tower and tank, about 4 miles of water mains; about 5 miles of sewerage with electric pumping station and about 10 miles of cement sidewalks.

Proposals must be marked, "Proposal for Improvements."

All bids must be upon blank forms provided in the proposal and contract and specifications.

Each bid must be accompanied by a certified check for 5 per cent of the amount of bid, but not less than $250, as evidence of good faith.

Plans and specifications will be on file at the Clerk's office in Beaufort and at the office of the Engineer in Durham, N. C.; copies of the specifications, form of proposal, etc., will be mailed upon application to the Engineer at Durham, N. C.

The right is reserved to reject any or all bids.

SETH GIBBS,
Mayor.
C. H. BUSHALL,
Clerk.
Engineer:
GILBERT C. WHITE,
Durham, N. C.

Bids open April 25, 1917.

NOTICE TO CONTRACTORS.

ROAD CONSTRUCTION

FAIRMONT, W. VA.

Sealed bids will be received until 12 o'clock noon, Wednesday, April 25, 1917, by the County Court of Marion County, W. Va., for the construction of approximately twenty-two miles of improved roads and streets in Paw Paw District of said Marion County.

A certified check in the sum of $400 must accompany each bid. Successful bidders will be required to furnish a bond satisfactory to the County Court.

Plans and specifications for this work are on file in the County Clerk's Office, Fairmont, W. Va., and at the office of W. M. Linn, at the Court House, Fairmont, W. Va.

The County Court will furnish at least part of the material going into the construction of these roads, details of which can be found in the plans and specifications.

The County Court reserves the right to reject any or all bids.

A. G. MARTIN,
Clerk of the County Court,
Marion County, W. Va.

UNITED STATES ENGINEER OFFICE, Room 710, Army Building, 39 Whitehall Street, New York, N. Y. Sealed proposals for furnishing and delivering 8,500 tons (more or less) of bituminous coal at Albany, N. Y., will be received at this office until 12 o'clock noon, April 9, 1917, and then opened. Information on application.

SEARCHLIGHT SECTION

PROPOSALS

Bids open April 23, 1917.

STREET PAVING

SOUTH BETHLEHEM, PA.

Sealed proposals will be received by the Borough of South Bethlehem, Pa., through the undersigned, up to 8 P. M., Monday, April 23, 1917, for the laying of approximately seventy-five thousand (75,000) square yards of street paving. The paving will include Brick, Amiesite, Bitulithic, Sheet Asphalt, Asphalt Macadam, Tarvia, Concrete.

Specifications and information to bidders can be had on application to the Borough Engineer, Mr. Richard M. Brady, Municipal Building, Third and Birch Streets, South Bethlehem, Pa. Applications must be accompanied by a deposit of Five Dollars, to be refunded on return of specifications.

The right is reserved to reject any or all bids.

ROBERT PFEIFLE,
Chairman, Street Committee.
R. M. BRADY,
Borough Engineer.
South Bethlehem, Pa., March 27, 1917.

Bids open April 7, 1917.

ROAD OIL

MACOMB, ILL.

Until April 7, 1917, Board of Supervisors of McDonough County will receive bids for 200,000 gallons of road oil with an option on 200,000 gallons more. Oil to be bought under Specifications "B" of the Illinois State Highway Commission. Further details may be had by addressing W. M. Bonham, Co. Supt. of Highways, Macomb, Ill.

U. S. ENGINEER OFFICE, PORTLAND, Me.—Sealed proposals for furnishing American Portland cement, concrete sand, sand fill, and reinforcing steel, will be received at this office until 2 P. M., April 23, 1917, and then publicly opened. Information on application.

PROPOSAL FOR STANDARD REVETment.—U. S. Engineer Office, Kansas City, Mo.—Sealed proposals wil be received here until 12 noon, April 9, 1917, and then opened, for constructing about 17,000 ft. standard revetment on Missouri River, about 45 miles below Kansas City, Mo. Information on application.

PROPOSALS FOR OIL TANKS—Office of Constructing Quartermaster, Fort Sill, Okla. Sealed proposals will be received here until 11 a. m., April 3, 1917, and then opened, for furnishing two 50,000-gal. steel fuel oil storage tanks. Plans furnished upon receipt of certified check for $5. Further information furnished upon application.

POSITIONS WANTED

A RECENT graduate civil engineer wants opening. Age 29. Office or field. Box 1590, Eng. Record.

AMBITIOUS young man, 19, high school education with mechanical and technical inclinations, desires position in engineering department of engineering concern. Address A. A. L., 1795 West Ninth Street, Brooklyn, N. Y.

ASSISTANT superintendent, walking boss. Experienced roads, water, sewer, foundations, dams. 31 years old, single. Go anywhere. Box 1810, Eng. Record.

POSITIONS WANTED

ASSISTANT to superintendent, civil engineer, 38, technical education, 8 years' construction experience both field and office, desires to change present position for one of greater responsibilities with builder or contractor. Box 110, Huguenot Park, New York City.

ASSISTANT professor. Structural engineering and materials testing. 5 years' technical experience, 4 years instructing in prominent Eastern institutions. Married, desire relocation for coming college year with progressive institution. Box 1683, Eng. Record, Real Estate Trust Bldg., Philadelphia, Pa.

AT Chicago or vicinity. Graduate C.E. 10 years' experience in civil-mechanical field; both in development work and as contractors' engineer. Industrial and power plants, hydraulic and heavy construction, including cofferdams. Responsible and capable investigator and representative with business and executive qualifications. At present with large Eastern interests. Box 1767, Eng. Record.

AVAILABLE for temporary engagement at any plant. Experienced chemical engineer will work out technical problems, draw up plans and estimates and start new lines of manufacture at reasonable rates. Consulting Chemist, 731 Williamson Bldg., Cleveland, Ohio.

BUILDING superintendent, 31, graduate in civil engineering. Mass. Inst. Technology. 10 years' experience as estimator, contractor, superintendent. Available on two weeks' notice. Will go anywhere. Present location Chicago. Box 1801, Eng. Record, Old Colony Bldg., Chicago, Ill.

CAPABLE instrumentman, technical, desires position—location, Iowa. Best of references. Box 1846 Eng. Record, Old Colony Bldg., Chicago, Ill.

CARPENTER and concrete foreman, age 40, fifteen years' experience on heavy general construction, desires position. Willing to go anywhere and can report at once. Box 1815, Eng. Record.

CIVIL engineer desires a position. 34, technical education, 10 years' experience in railway location and construction, concrete and irrigation. 6 years in Mexico and South America. Speak Spanish. Box 1669, Eng. Record, Old Colony Bldg., Chicago, Ill.

CIVIL engineer, graduate, 4 years' varied experience, wants job with consulting engineer or contracting company. Box 1780, Eng. Record.

CIVIL engineer, 30, wants position, 11 years' municipal, railroad construction, water supply and sewerage experience. Executive ability, competent to manage surveys and construction. References. Box 1668, Eng. Record.

CIVIL engineer, technical graduate, 15 years' experience field and office work, topographic, hydrographic, geodetic and precise tunnel surveys. Compilation, drafting and engraving of maps. Ten years in charge. Box 1706, Eng. Record.

CIVIL engineer, technical man, 4 years experience field and office, good instrumentman and draftsman, wishes engagement. Box 1781, Eng. Record.

CIVIL engineer, 28, available for general construction work at once. 8 years' experience on reinforced concrete bridge work; building construction; railroad work; highway work. Location engineer, general inspection of building and bridge work. Box 1717, Eng. Record, Real Estate Trust Bldg., Philadelphia, Pa.

CIVIL engineer, technical graduate, thoroughly experienced construction man, familiar with Latin American countries, speaks Spanish fluently, desires position as engineer or construction superintendent. Box 1862, Eng. Record.

POSITIONS WANTED

CIVIL engineer, graduate, twenty-nine, three years' construction, surveying and drafting experience, ten years' legal and business experience, secretary and stenographer, familiar with industrial organization. Highest credentials, seeks position offering opportunities for advancement. Box 1755, Eng. Record.

CIVIL Engineer, now employed, would like permanent position with consulting engineer or contractor. Seven years' experience on design and construction of sewers, sewage disposal plants and pavements. Minimum salary $2,000. Box 1843, Eng. Record.

CIVIL engineer graduate, age 35. Assoc. Member Amer. Soc. C. E., desires position, preferably with manufacturing establishment. Experience: tin plate mill, boilers, pumps, flue gas analysis, steel erection, steam shovel, reinforced concrete, tunnels, dams, cofferdams, water works, appraisal, schedule and estimate. References. Present position traveling construction and want stationary position. Salary secondary to chance of advancement. Box 1830, Eng. Record, Old Colony Bldg., Chicago, Ill.

CONTRACTOR'S engineer, superintendent, 32, associate member Amer. Soc. C. E., 13 years railroad, concrete bridges, arches, sewers, disposal plants, pile driving, difficult excavations. Good organizer; salary $200. Philadelphia or New York interview. Box 1449, Eng. Record, Real Estate Trust Bldg., Philadelphia, Pa.

CONTRACTOR'S engineer, 26, technical education, 3 years' construction experience both field and office. Executive ability; seeks position as right bower to a good man. Box 1800, Eng. Record.

CONTRACTOR'S superintendent and licensed mechanical engineer, 12 years' experience in street paving; 8 years' experience in asphalt. Thoroughly understand the composition and testing of the various asphalt pavements. Efficient organizer. Age 40, married, strictly temperate. Come well recommended. Available April first. Box 1793, Eng. Record, Old Colony Bldg., Chicago, Ill.

CONTRACTOR'S engineer-superintendent, 32, Assoc. Member Amer. Soc. C. E., 10 years' experience, general engineering contracting business. Hustler, organizer, ambitious, desires opportunity with reputable contracting, engineering or equipment company. Box 1824, Eng. Record.

COMPETENT and experienced engineer, well recommended, wants an engagement. Particulars and references upon request. Address Box 1808, Eng. Record, Real Estate Trust Bldg., Philadelphia, Pa.

ENGINEER, 16 years' experience on extensive surveys. Also broad experience in the design, location and construction of irrigation works. Desires position in Northwest on irrigation or highway work. Box 1835, Eng. Record, Rialto Bldg., San Francisco, Cal.

ENGINEER, age 30, married. Ten years' experience on surveys, bridges and buildings, steam and combustion engine power plants, water supply, including filtration, electric transmission, right-of-way, refrigeration. Five years' executive experience in complete design, construction, purchasing and contracting. Well versed office methods. Adroit correspondent. Prompt and vigorous. Good organizer and mixer. Now employed in responsible capacity. Desires change to progressive engineering or contracting organization offering future. Chicago or larger Eastern cities preferred. Personal interview desired. Present position requires 30 days' notice. Box 1857, Eng. Record, Old Colony Bldg., Chicago, Ill.

ESTIMATOR and engineer, 15 years experience as all-around man on structural and ornamental iron work. A-1 reference. Box 1863, Eng. Record.

SEARCHLIGHT SECTION

Get your Wants into the Searchlight

ADVERTISING RATES

Under "Positions Wanted," including Salesmen looking for new connections, Evening Work Wanted, etc., undisplayed advertisements cost **three cents a word,** minimum charge 50 cents an insertion, **payable in advance.**

Under "Positions Vacant," including Agents and Agencies Wanted, Representatives Wanted, Salesmen Wanted, Partners Wanted, Business Opportunities, Employment Agencies, and Miscellaneous For Sale, For Rent and Want ads; also Auction Notices, Receivers' Sales, Machinery and Plants For Sale or Wanted, undisplayed advertisements set solid in one paragraph, cost **five cents a word,** minimum charge $1.50 an insertion.

Machinery advertisements (undisplayed) set with a paragraph for each item, or tabulated, 30 cents a line, minimum 5 lines.

All advertisements for bids (Proposals) $2.40 an inch.

If replies are in care of any of our offices, allow five words for the address.

ADVERTISEMENTS IN DISPLAY TYPE

1 inch	$3.00 an inch	30 inches	$2.60 an inch
4 inches	2.90 an inch	90 inches	2.40 an inch
8 inches	2.80 an inch	180 inches	2.27 an inch
15 inches	2.70 an inch	270 inches	2.20 an inch

Space to be used within one year, to be divided to suit requirements of advertiser, provided some space is used at least once a month following first insertion.

In replying to advertisements, do NOT enclose original testimonials, or anything that you may want returned. State your qualifications in as concise and neat a manner as you can and enclose COPIES of testimonials. In machinery ads, use a local name or address if possible so that readers can wire direct and get quick replies.

POSITIONS WANTED

ESTIMATOR and quantity surveyor with broad experience in all kinds of building construction work, having surveyed quantities, compiled and priced over 300 estimates, ranging from one hundred thousand to two million dollars, on plans and specifications of well-known architects and engineers throughout the country. This experience includes every type of building—mill construction, re-concrete, brick and steel fireproof. Open for position after April 15. Box 1855, Eng. Record.

EXPERIENCED highway engineer open for immediate engagement. Preliminary surveys, plans, estimates and supervision of construction. Box 1619, Eng. Record.

EXPERIENCED foreman wants position. Can furnish large number of laborers if desired. Box 1785, Eng. Record.

FIVE years' experience in highway construction, age 25, surveys, estimates. Would like to get with contracting or engineering firm as instrumentman, timekeeper or the like. Box 1812, Eng. Record.

GENERAL or carpenter foreman, 19 years' experience on office, residence and bank building construction. Competent, sober and reliable. Go anywhere. Give preference to Ohio, W. Virginia or Kentucky. References. Box 1778, Eng. Record.

GENERAL superintendent with firm doing three quarter million of dollars business annually wants to connect with larger concern. Present salary $3,600; what have you to offer? Box 1833, Eng. Record, Old Colony Bldg., Chicago, Ill.

GENERAL superintendent (35) now with firm specializing in United States Post-Office Buildings contemplates a change and would be interested in offer from firm doing similar work. Eight years in present position, six of which have been spent handling government work exclusively. Box 1832, Eng. Record, Old Colony Bldg., Chicago, Ill.

Construction and Design

ENGINEER—Assoc. M. Am. Soc. C.E. Technical graduate. Age 28; married. Over seven years' experience in construction, design and investigation of WATER POWERS, TRANSMISSION LINES, Heavy Building Work and RAILWAYS. Responsible position desired with opportunity for further advancement. Present position requires one month's notice. Interview at or near New York or Boston.

Box 1681, Eng. Record.

POSITIONS WANTED

GENERAL foreman of construction, 32, technical education wants permanent position. Experienced; 15 years' masonry construction, excavation, concrete, sewer, road, bridge. Fourth year International Correspondence Schools. Civil Engineer course. For particulars address Box 1820, Eng. Record.

GRADUATE civil engineer, 1916. Wants opening office or field. Will start low. Box 1591, Eng. Record.

HYDRAULIC engineer with 12 years' experience in design and construction of hydraulic works. At present in responsible position. Will be open for engagement in the near future. Box 1859, Eng. Record, Old Colony Bldg., Chicago, Ill.

JUNIOR structural draftsman, good tracer and letterer, wishes position. Box 1782, Eng. Record.

MASTER mechanic with 7 years' experience on all kinds of construction and stationary work wishes permanent position. Location east of Chicago. First-class references. Box 1766, Eng. Record.

MECHANICAL engineer, 39. Wants position with engineering company or industrial plant. Thoroughly competent to take full charge of electric power, maintenance, repairs, installation of machinery and construction of concrete and steel buildings. 15 years in charge of drafting room and supervision of construction. Reason for change; have reached maximum salary paid for position. References. Box 1705, Eng. Record, Old Colony Bldg., Chicago, Ill.

MEMBER American Society Civil Engineers, twenty years' experience, design and construction of highways, pavements, sewers and waterworks. Good executive. Position as municipal, county or contractor's engineer in Northeastern states preferred. References. Box 1770, Eng. Record.

ENGINEER AND CONTRACTOR

16 Years, with steel fabricating shops. Detailing, estimating, designing and contracting. Also shop work and erection. Ten years as Chief Engineer in charge of Engineering and Contracting.

8 Years, with Cities and United States Government. Designing, constructing and maintaining roads, streets, bridges and buildings.

3 Years, Engineering and Contracting for materials and structures of steel or concrete.

Experienced on systematic organization and management of office and field work. Member A. S. C. E. Have an extensive acquaintance among Engineers, Architects and Contractors. Have been successful as selling and contracting agent.

Minimum Salary $3,000 per year

Address 1839, Engineering Record

POSITIONS WANTED

POSITION desired as city manager or city engineer by engineer now employed as city engineer in city of 12,000, 16 years' experience, 8 years in municipal work. References. Address Box 1738, Eng. Record, Old Colony Bldg., Chicago, Ill.

SEMI-EXECUTIVE position wanted by applied science university graduate with financial and business experience and an intimate knowledge of architecture and building around New York City. A good organizer. Six months' experience with ammunition gauges. References. Box 1852, Eng. Record.

SUPERINTENDENT of construction or manager for general contractor. Graduate civil engineer; 10 years' field and office experience in building construction. Age 33. Good executive. Available soon. Salary $200. Box 1634, Eng. Record.

SUPERINTENDENT, 38, technical graduate. Broad experience on all kinds of heavy construction. Locks, dams, grade crossing elimination, concrete arch bridges, etc. Good organizer, resourceful and aggressive. Box 1699, Eng. Record.

SUPERINTENDENT or carpenter foreman, 40, fifteen years' practical experience. Heavy construction. Can report at once. Will go anywhere. Box 1816, Eng. Record.

SUPERINTENDENT or manager, age 38, technical education. Long experience both technical and practical as estimator and superintendent. References furnished. Box 1853, Eng. Record.

SUPERINTENDENT, 12 years in charge of large construction jobs, tunnels, heavy trench and foundation work. Irrigation, underground, reinforced concrete and difficult excavations a specialty. First-class, practical all-around man. A1 references. Go anywhere. Box 1776, Eng. Record.

Engineer Manager

MEMBER A. S. M. E.—A. S. C. E. Now available; sixteen years' experience in industrial engineering and management.

Able to make an organization pull together—gets results. Well versed in difficult combustion problems, pulverizing, rock propositions, etc.

Box 1784, Engineering Record.

SEARCHLIGHT SECTION

POSITIONS WANTED

SUPERINTENDENT with 15 years' practical and technical experience, open for engagement. Reinforced concrete building, deep foundations, pile driving, bridges and cofferdams. Box 1790, Eng. Record, Old Colony Bldg., Chicago, Ill.

SUPERINTENDENT, construction manager, engineer, age 42, married, temperate, 16 years' experience handling under general contract, 40 buildings aggregating fifteen million, of following type: hotel, office building, hospital, power house, factory and railroad shops located east, south and middle west. Thoroughly familiar with caisson, pile or heavy foundations, steel fireproof, reinforced concrete and mill construction superstructure. Capable of handling all details on job away from main office or of establishing and managing branch office. Highest references and recommendations from previous employers. Salary reasonable. Available after May 1. Box 1854, Eng. Record.

TRAINED men in municipal surveying from assistant engineers to chainman desire positions with private firms, railroads or municipalities. Box 1811, Eng. Record, Real Estate Trust Bldg., Philadelphia, Pa.

YOUNG man desires position with engineer or contractor around New York City. Understands blue prints, reinforced concrete and some surveying. Box 1858, Eng. Record.

POSITIONS VACANT

AN experienced engineer wanted for asphalt paving construction and one for sewer construction. Location Iowa. Salary $90-$110. Box 1831, Eng. Record, Old Colony Bldg., Chicago, Ill.

BOOKKEEPER and cost accountant wanted. One who has had experience with contract work. Must be able to use typewriter. Work located in Florida. State salary and experience. Address Box 1837, Eng. Record, Real Estate Trust Bldg., Philadelphia, Pa.

CAPTAIN for a 12-in. hydraulic dredge operating on Mohawk River wanted at once. Must be thoroughly experienced and able to produce yardage. Address, giving experience, previous employers and wages expected. Troy Public Works Co., Utica, N. Y.

COMBUSTION engineer wanted. Experienced in power plant and stoker operation. Familiar with modern instruments. Apply Charles B. Buerger, Atlantic Refining Co., 3144 Passyunk Ave., Philadelphia, Pa.

DRAFTSMAN, experienced on industrial and power plant layout and construction work, concrete, steel, mechanical. Box 1851, Eng. Record.

Structural and Editorial Experience Offered

College graduate with 9 years' experience as engineering teacher, 6 years' as structural detailer and designer and 2 years as associate editor in charge of the structural field, desires position after April 1, preferably with large organization as designer and technical writer for engineering publicity.

Box 1771, Eng. Record.

POSITIONS VACANT

DESIGNERS, structural steel, reinforced concrete, general plant layout men, wanted for New York designing office. Only first class men, industrial plants experience preferred, need apply. Submit complete details, experience and qualifications. Box 1686, Eng. Record.

DRAFTSMAN and designer wanted—experienced in steam power plant design and layout. State fully in first letter age, education, experience, references, salary expected, and when available. Location—Western Massachusetts. Box 1735, Eng. Record.

DRAFTSMAN wanted for structural steel work. Also several good detailers. The C. C. & E. Co., Wickliffe, Ohio (near Cleveland).

DRAFTSMEN wanted with experience in elevating and conveying machinery and general cement plant work. State education, experience and salary expected. Box 1825, Eng. Record, Real Estate Trust Bldg., Philadelphia, Pa.

ENGINEER of four to eight years' works experience wanted, to take responsible position in established industry. General all-around ability in plant operations necessary. Applicant should have had good training, fundamentals, chemical and electrical engineering. Experience in metallurgical and electric furnace work desirable but not necessary. Give full history and state salary expected. Box 1627, Eng. Record.

ESTIMATOR wanted. A live wire estimator wanted who has come from the crafts must have had architectural drafting experience and know buildings from foundations to finish. In replying give experience, reference, age, present salary, salary expected, and when available. King and Butcher, Champaign, Ill.

EXPERIENCED draftsman on structural steel and reinforced concrete wanted for hydro-electric power plant buildings. Mechanical experience desirable but not essential. State experience, education, reference and salary expected, when available. Box 1775, Eng. Record, Real Estate Trust Bldg., Philadelphia, Pa.

FIELD superintendents wanted. Thoroughly familiar with general contract work, especially mill building construction of steel and reinforced concrete. Must be able to handle men and materials economically. References. Box 1827, Eng. Record, Real Estate Trust Bldg., Philadelphia, Pa.

FOREMAN tool sharpener wanted, to take charge of shop making, sharpening and tempering steel for hard rock tunnels and excavation. Shop equipped with oil furnaces and Sullivan and Leyner tool sharpening machines. Applicants must give full experience, names of people for whom they have worked and salary desired. Address Tallahassee Power Company, Alcoa, Blount County, Tenn.

Study Reinforced Concrete Engineering and Structural Steel Designing Under an Experienced Engineer

A superior course of mail study has been prepared by this engineer. The plan is to teach students by having them *actually do the work*, and all criticisms and corrections are made in person by the instructor.

Each individual is treated as though he were the only one taking the course of work.

You get actual Engineering Experience

Address Box 534, Engineering Record.

POSITIONS VACANT

FIRST-CLASS map draftsmen wanted. Send sample of line and lettering work, and statement of salary expected. Address Civil Engineering Department, Drawer F, Bartlesville, Okla.

GENERAL foreman street paving work. Young man of good character, temperate, who has had some practical experience. Capable of handling men and getting results. Address Box 1739, Eng. Record, Old Colony Bldg., Chicago, Ill.

This Opportunity Will Never Come Again

THE first issue of Engineering News-Record, April 5, will have a circulation of 40,000. It will bulge with special features and special advertisements. It will be seen and read by about every worth-while contractor in this country.

The spring construction season is opening with a rush. Already there is a loud noise for plant and equipment that manufacturers cannot supply promptly.

Take a full page, or a double-page spread, and publish in this big important number, with its double circulation, a complete list of the items that you can furnish promptly.

Wire your reservation and send copy quickly. Last form goes to press on Tuesday.

Engineering News-Record

10th Ave. & 36th St., New York

SEARCHLIGHT SECTION

POSITIONS VACANT

INSPECTOR wanted—Experienced in expediting machinery deliveries. Apply in writing, giving particulars, experience, etc., to Matthew F. Roberts, 3144 Passyunk Avenue, Philadelphia, Pa.

MAN thoroughly familiar with general contract estimating in all of its branches wanted. Also familiar with office detail work of general contractors. Must have considerable previous experience. References. Box 1826, Eng. Record, Real Estate Trust Bldg., Philadelphia, Pa.

MASTER mechanic wanted for crushing plant in East. Box 1845, Eng. Record.

REINFORCED concrete designers — State experience, salary expected, age, married or single and when ready to report for work. Address Engineering Department, Michigan Office, Trussed Concrete Steel Company, Detroit, Mich.

SUPERINTENDENT for reinforced concrete building, New York City. Must have flat slab experience. Position opened April 15th. Give record, references, age and salary wanted. Box 1864, Eng. Record.

SEVERAL structural detailers for mill and office building work wanted. State in reply age, experience and salary expected. Richmond Structural Steel Co., Richmond, Va.

SUPERINTENDENT wanted: Engineering and contracting company, western New York, doing three million business, desires general superintendent of construction, brick, steel and reinforced building work. Must have at least ten years' practical experience. Technical education desired but not necessary. Give full experience, salary desired, etc. Confidential. Box 1677, Eng. Record, Old Colony Bldg., Chicago, Ill.

TEMPLATE makers and fitters, etc., wanted for structural shop in Havana, Cuba. Must be fully experienced, rapid and accurate on mill building work. State experience, references and salary at once. Good position for right men. Transportation to Havana. Box 1350, Eng. Record, 935 Real Estate Trust Bldg., Philadelphia, Pa.

WE HAVE an opportunity in California for an ambitious and capable young engineer, electrical and mechanical; technical graduate, with some shop experience, to develop into engineering salesman. Give full experience, age and complete references. Box 1836, Eng. Record, Rialto Bldg., San Francisco, Cal.

YOUNG draftsman, graduate engineer with some drafting experience wanted at once. Fair salary to start and good chance for right man. Send photograph. Red Oak Bridge & Iron Works, Red Oak, Iowa.

Advancement is nearly automatic to Structural Draftsmen

And they are always in demand

The knowledge you acquire in studying structural Draftsmanship *is the kind that counts in Structural Engineering!* It leads to higher salaries, the breaking away from routine, and A FUTURE FOR YOU.

A thorough course by mail is now available. Write for details.

Box 2600, Engineering Record.

EVENING WORK WANTED

ALL kinds of drafting, designing, etc., done moderately by experienced technical graduate. Box 1813, Eng. Record.

EXPERT detailing and tracing from notes or rough sketches. Specializing in farm and city surveys, topographical maps and railroad work. Box 1704, Eng. Record.

STRUCTURAL steel and reinforced concrete work of all descriptions by competent graduate engineers. Work for architects a specialty. Excellent references. Box 1794, Eng. Record.

AGENTS AND SALESMEN

Sales Engineer Wants Position

By a young practical sales engineer in the structural steel trade, thoroughly experienced in designing, detailing, estimating, buying and selling of steel. At present sales manager of a plant in the Middle West but desire a change for better prospects. Address Box 1786, Eng. Record, Old Colony Bldg., Chicago, Ill.

Wants Additional Line

Sales Engineer established in Middle West, acquainted with architects, engineers, contractors, and larger manufacturers wishes to handle additional line of reputable contractor's equipment or building supplies. Box 1818, Eng. Record, Old Colony Bldg., Chicago, Ill.

Salesman Wants Permanent Connection

Salesman, correspondent (30), desires permanent connection in sales offices or selling. College training. Several years' selling experience. Also good office training. Engaged 4 years in surveying and engineering construction. Eastern location. Box 1841, Eng. Record.

Aggressive Salesman Wanted

Salesman to sell concrete mixers and other contractors' equipment in northern Jersey. Must be able and aggressive. Good opportunity for capable representative. Commission basis. Box 1860, Eng. Record.

Manufacturers and Contractors

Young business man having had broad and successful experience as salesman and executive, desires to connect with manufacturer or contractor seeking Chicago representation.

Has confidence and ability developed by 12 years' contact with architects, contractors and builders and capable of handling large contracts in a competent manner. Of good address and thoroughly reliable.

Now (and for past 6 years) manager of firm connected with building industry in Chicago.

Want first-class proposition affording wide opportunities and where returns will be in line with results obtained.

Box 1834, Eng. Record,
Old Colony Bldg., Chicago, Ill.

$4,000 Salesman
WANTED

One that has made good selling Gasoline Engines and Contractors' Equipment.

Give references and full record of yourself in first letter.

If you cannot earn the above you are not the man.

Apply Box 1804, Eng. Record,
Old Colony Bldg., Chicago, Ill.

EMPLOYMENT AGENCIES

AMERICAN SERVICE COMPANY, General Engineering Agency, Pittsburgh, Pa., require draftsmen of every description; Eastern, Northern, Western, Southern employers. Construction engineers, buildings, hydraulic works. 10 to 20 per cent bonus offered all detail draftsmen. Don't be skeptical—write.

ESTIMATOR and superintendent for general building contractor, $50 per week; architectural engineer power plant design, $175; young civil engineering graduates for railroad, county and highway work, surveys and drafting, $75-$100; railroad map draftsmen, $100-$120; transitman coal mine, $90; draftsman, R. R. construction, $110; structural checkers, $140-$165; detailers, $100-$130; designer, experienced in smelter or blast furnace work, $200; instructors in engineering subjects. The Engineering Agency, 25th successful year, 1662 Monadnock Building, Chicago.

THE BEST WAY

to get a good position in Drafting or Engineering is to file an application direct with some of our clients who are depending on us to get competent and experienced applicants for their Vacant Positions. Send stamp for Blank and List of Vacant Positions.

The Cleveland Engineering Agency Company
Rose Building. Cleveland, Ohio.

READ THE

Searchlight Section

EVERY WEEK

The For Sale pages are a weekly "Bargain Sale"—the biggest to be found anywhere, because the Record publishes more ads of this kind than can be found in any other journal.

Every issue contains offers of equipment by which contractors can save a lot of money. It is a habit counting for economy to look over the For Sale pages every week whether or not a contractor intends to buy anything at the moment. This keeps him in touch with what is available—and where—when he must buy.

Keep an eye on the Want columns at the same time. They afford an easy means of marketing equipment for which one concern may have no further use, but which may be just what another concern wants.

Altogether the Want and For Sale pages of the Engineering Record form an "Opportunity Department" that hardly anybody in the engineering-contracting field can pass by without losing money.

ENGINEERING RECORD
239 West 39th St., New York

SEARCHLIGHT SECTION

MISCELLANEOUS WANTS

Wanted at Once

For immediate shipment, any quantity of battery lead plates, sediment scrap copper and wire, brass and all other grades of scrap material. Write to us today for our prices. National Metal & Rubber Co., 31 India Wharf, Boston, Mass.

Hauling Contracts Wanted

We want hauling contracts anywhere. 7 years' experience with auto trucks and caterpillars in mountains and deserts of California and Nevada. Can handle any proposition. California Auto Trucking Co., 860 Waller St., San Francisco, Cal.

WANTED

Several 5, 6 and 8 ton tandem

Steam Rollers

and some 10-ton 3 wheelers (steam).

Must be in complete, good operating condition and cheap for spot cash. Give make, age, etc., and reply at once.

WILLIS SHAW
239 Railway Exchange, Chicago, Ill.

Steel Sheet Piling

WANTED

We are in the market for 7,000 sq. ft. of steel sheet piling in 20 ft. lengths.

Must be in first-class condition.

A. A. PARKER
WATERFORD, N. Y.

WANTED

Stuebner, self-righting tip-over

BUCKETS

½ to 2-yards capacity.

Box 938, Eng. Record,
935 Real Estate Trust Bldg., Phila., Pa.

BUSINESS OPPORTUNITIES

Engineer-Representatives Wanted

With business ability, experience in design of reinforced concrete buildings and acquaintance among architects and contractors for meritorious reinforcing system which proved very successful in territories covered. Box 1314, Eng. Record.

Partner Wanted

One who is familiar with highway construction preferred. Must have 4 to 5 thousand dollars to invest in contracting company. This will prove an unusually high-class opportunity to the right man. References given and required. Address Box 226, Kingston, N. Y.

Pacific Coast Agents Want New Line

Building material or hardware line of merit wanted by well-known established Pacific Coast agents. We cover the territory and show results. Address, Edwin R. Barth, 52 Main Street, San Francisco.

Contracting Opportunity

The Owner of a considerable line of contracting machinery (Trenchers and Dry Land's) woul like to join with men of experience, with the object of getting the machinery to work on a mutually paying basis.

Worth investigating by sewer and drainage foremen, superintendents and small contractors.

Replies must state fully past experience and present requirements, and will be treated as confidential.

Box 1676, Eng. Record,
Old Colony Bldg., Chicago, Ill.

CONTRACT BOND
and Casualty Insurance Service

Bond guaranteeing contract to furnish year's supply edgestones to City of Boston effected through this office.

Thomas J. Nolan & Co., Insurance Brokers
75 State St., Boston, Mass.

WANTED

Class O 3 or Class OC 3 Ingersoll-Rand

Compressor

cap. 3,500 cu. ft.

Advise lowest price, condition and location.

Box 1803, Eng. Record,
Real Estate Trust Bldg.,
Philadelphia, Pa.

WANTED

Steel Derrick

About 75′ mast and boom.

3-drum Hoisting Engine

about 10 inch.

Also

Swinging Engine

These must be in first-class condition and ready for immediate shipment.

Box 1828, Eng. Record.

WANTED

Class E Dupont

Steam Hammer

with belt connection to run off motor for use in Blacksmith shop. Must be in first-class condition.

Bay State Dredging & Contracting Co.
247 Atlantic Ave. Boston, Mass.

Engineers Spend Many Years

studying the problem of being of service to others, but neglect the problem vital to themselves—the problem of increasing their earning capacity.

How much constructive thought have you given to the problem of selling your services? Very little, probably—as you will realize when you read the new book called SELLING YOUR SERVICES.

The book holds that you have a product to market—your services. How will you find the market for these? How develop a group of prospects for these services? How close the most desirable prospect into a customer, the employer for whom you can do the best work and who consequently can afford to pay you the maximum salary?

The book was written by employers of engineers and the analysis of the problem is based on hundreds of actual cases, including successes and failures.

The Engineering Record says of the book: "There is a large amount of good advice—some of it worth many times the price of the book."

Price $1.00. You can have your money back if you are not satisfied that the book is worth many times its price. Remit in any form convenient to you.

THE SALES SERVICE COMPANY, World Building, New York City

The **WANT** and **FOR SALE** Advertisements

of Engineering Record are part of the weekly literature of live engineers, contractors and purchasing agents all over the United States.

These men look to the Record for opportunities to buy, sell, rent or exchange machinery and equipment, just as they look for news of the general doings in the field.

For only $1.50 a week you can put your story where it will interest the greatest number of your prospective customers.

Shall we mail you a rate card?

ENGINEERING RECORD
239 West 39th St., New York

SEARCHLIGHT SECTION

INTERNATIONAL LABOR AGENCY

153 BOWERY NEW YORK

Laborers of all nationalities supplied.

Expert management of boarding camps and commissaries.

Families procured. Foreign Colonies located.

IT WILL PAY YOU TO GET IN TOUCH WITH US

Phones Orchard 77, 7075, 3416

BRANCH—355 BOWERY

FOR SALE

Locomotives, Boilers, Car Irons

One 30-ton Forney type and one American type locomotives, made by Baldwin Locomotive Works. Seven stationary steam boilers 66 inches by 16 feet, four-inch flues, with fittings. Iron parts only, including wheels, axles and arch bar irons, for thirteen complete logging cars, standard gauge, 30,000 lb. capacity. All of the above equipment in first class condition and can be shipped promptly. Write for specifications. Industrial Lumber Company, Elizabeth, La.

Grab Buckets for Sale

Four 3-cu. yd. Andresen-Evans Type "A-1," 3 or 4-line Grab Buckets, weight 10,000 lb. each, manganese steel lips and teeth. These buckets combined handled less than 400,000 cu. yd. in excavation service for U. S. Government and are in splendid condition. A great bargain. Andresen-Evans Co., Railway Exchange Bldg., Chicago, Ill.

FOR SALE

Contractor's Plant for Sale

One Marion Model 20 steam shovel. Vulcan locomotive, 10 x 16, three-foot gage. Continental 4-yd. two-way dump cars. Three-foot gage. Martin Murray, Burdett Building, Troy, N. Y.

Tractor for Sale

We offer a 17 hp. draw-bar 34 hp. belt, oil-cooled two-cylinder Hart Parr tractor, in perfect condition, at a price considerably under cost; sold as it is too large for our work; suitable for a road contractor or as power for a saw mill. Flintstone Farm, P. O. Box 234, Dalton, Mass.

Derrick—Crusher—Track

Traveling derrick with 45-ft. boom. Also hoist and swinging equipment for use with Orange Peel bucket. Stone crusher 10 x 16 and 21 hp. gas engine. Portable track, 24-in. gage and steel cars. P. L. Braunworth, Montclair, N. J.

FOR SALE

For Sale—Ready—For Work

Bullwheel—Derrick 30 ft. Boom. Lidgerwood—Engine, boiler, cable, blocks. Complete with rails. Two 18-ft. dump buckets. One yard Koppel cars, 200 ft. track. Murphy Brothers, Harway Avenue, corner Bay Forty-third Street, Brooklyn, N. Y.

Locomotive for Sale

One standard gauge 17" x 24" Brooks simple type locomotive. Approximate weight fifty tons. In good condition and will sell cheap. Detail specifications and price on application. Tennessee Power Co., Chattanooga, Tenn.

Rails for Sale

125 tons of 70 lb. 7 inch T rails, second hand, with splice bars. Also plate girders 27 to 34 ft. long, 3 ft. 6 in. high. Inquire I. Kamrass, Long Branch, N. J.

For Sale Cheap or Will Rent

1—22 H.P. Buffalo-Pitts Traction Engine.
4—4-yard Buffalo-Pitts reversible Dump Wagons for above Engine.
6—2-yard Eagle Dump Wagons.
All the above in first-class order or will take a hauling contract on state road.
Address J. B. Schultz, 88 West Huron St., Buffalo, N. Y.

Concrete Mixer for Sale

Wonder concrete mixer (10 ft.) on wheels, power loader gasoline engine, gasoline power pump on wheels. Lot of chain assorted lengths, wheelbarrows, picks and other material for general contracting work. Prompt delivery in Bronx. Two Nobby tread 37 x 5 automobile tires, nearly new. Can be seen by phoning to Williamsbridge 174, or writing. A. P. Roth, 529 Courtland Ave., Bronx, N. Y.

This Opportunity Will Never Come Again

The first issue of Engineering News-Record, April 5, will have a circulation of 40,000. It will bulge with special features and special advertisements. It will be seen and read by about every worth-while contractor in this country.

The spring construction season is opening with a rush. Already there is a loud noise for plant and equipment that manufacturers cannot supply promptly.

Take a full-page, or a double-page spread, and publish in this big important number, with its double circulation, a complete list of the items that you can furnish promptly.

Wire your reservation and send copy quickly. Last form goes to press on Tuesday.

ENGINEERING NEWS-RECORD

10th Ave. & 36th St., New York

SEARCHLIGHT SECTION

FOR IMMEDIATE DELIVERY

1—70 C Bucyrus Shovel

2—16x10 — 36″ Davenport Dinkeys

30—4-yd. 36″ Western Dump Cars

Located at Carbon, Ind. Practically new. Good working order.

J. L. CONOVER
Carbon, Ind.

AIR COMPRESSORS

Belt Driven

1—Clayton 10 x 10, 192′ Cap.
1—Ingersoll-Rand, Imperial Type 10, 450′ Cap.
1—Ingersoll-Rand N. E. 1, 12 x 12¼, 310′ Cap.
1—Ingersoll-Rand 10-2-28 x 17 x 24, 2600′ Cap.
1—Ingersoll-Rand 12½ x 12, 350′ Cap.

Motor Driven

3—Ingersoll-Rand, Class E, 10 x 10, 135′ Cap.
1—Chicago-Pneumatic, 16 x 10 x 12, 550′ Cap.
1—Franklin, 30 H.P., 150′ Cap.

Steam Driven

1—McKirman, 150′ Cap.
1—Westinghouse, Low Pressure, 11 x 11 x 12, 66′ Cap.
1—Rand, Class C, 18 x 18 x 24, 700′ Cap.
1—Ingersoll-Rand, Duplex, 22 x 24 x 24, 973′ Cap.
2—Ingersoll-Rand, C-2 Duplex, Corliss, 3618′ and 2600′ Cap.
And many others.

LOCOMOTIVE CRANES

1—Ohio, 15/20 Ton, 8 wheel.
1—McMyler, 15 Ton, 8 wheel
1—Browning 15 Ton, 8 wheel

Everything in Contractors' Accessories

FRANK T. CRAVEN COMPANY, 50 Church Street, New York, N. Y.

FOR SALE
Five Buffalo Pitts 5-ton

REVERSIBLES

spreading dumping bottoms. Perfect condition, used one season, painted and stored inside.

MALCOLM W. HILL & CO.,
Contracting Engineers, Baltimore, Md.

GUY DERRICKS!

HOW MUCH DO YOU OFFER FOR:

1—Mast 93 ft. 20 inches diameter, Boom 85 ft. 20 inches diameter
1—Mast 93 ft. 20 inches diameter, Boom 90 ft. 22 inches diameter
1—Mast 90 ft. 16 x 16 inches, Boom 77 ft. 20 inches diameter
1—Mast 75 ft. 16 x 16 inches, Boom 71 ft. 17 inches diameter
1—Mast 72 ft. 14 x 14 inches, Boom 71 ft. 16 inches diameter
Twelve to fifteen hundred feet of ⅞″ guy lines with each derrick, all equipped with complete set big heavy American H. & D. Co's fittings. Good condition.

Buy with the derricks 32 3 cu. yd. scale boxes (skips) and 9 fine 3⅝ inch Murphy Rock Drills with tripods and weights.

A Smith 5-yd. Concrete Mixer with vertical engine and hopper, price $250.00 f.o.b. cars, Buckets, Boilers, Cars, Engines, Hoists, Locomotives, etc.

Send your inspector to see Mr. J. A. Lappin, Loch Raven, Baltimore County, Md. His 'phone No. 68 J Towson.

Prices right for quick sales.
Send for list No. 117.

E. C. SHERWOOD, 1955 Hudson Terminal Bldg., New York City

AIR COMPRESSORS

12¼ x 12 Ingersoll-Rand belt driven, 100 lb. pressure, 310 cu. ft., receiver 50″ x 15′.
Norwalk 100 lb., 700 cu. ft. steam driven.
9 x 9 x 11 Chicago Pneumatic steam driven, 100 lb., 130 cu. ft.
6 x 6 Bury belt driven, 100 lb., 45 cu. ft.
Modern machines, excellent condition, also others. Write

A. G. Schoonmaker & Sons, 50 Church St., New York, N. Y.

Road Roller Bargain

Macadam Roller
in excellent shape

Box 114, Eng. Record.

Portable Asphalt Plant

1800 yds. per day.

Double Shell Dryer, 3 Jet Oil Burner; 60 H.P. Boiler, all on wheels. With 20 H.P. Engine, 3 Kettles 1000 Gal. each. Westinghouse Air Compressor, Mixing Box, Elevators, Hoppers, Belts, etc. Complete. Built 1914, USED ONLY 3 MONTHS.

We offer this at a GREAT BARGAIN to an immediate buyer.

Also 2 smaller plants. One 600 and one 1000 yds. capacity.

1—10 x 20 Champion Complete PORTABLE CRUSHING PLANT, including large Bin. Practically new.

1—10-ton Universal 3-wheel Roller, Scarifier and other Road Equipment.

The New York Purchasing Agency, INC.
76 Pine St., New York, N. Y.

FOR SALE

Steam Shovel—Vulcan, 1 yd. revolving tractor.

Hoists—Lidgerwood, Rawson-Morrison and National.

Boilers — Upright and horizontal. Portable and stationary.

Mixers—Haines-Weaver, ½ cu. yd. No. 4 Smith, with engine.

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Compressor — Chicago Pneumatic, Gasoline driven, with cooling tower; 150 cu. ft. capacity.

Pumps—Steam, Pulsometer, Cameron with engine, Centrifugal.

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Trucks, Wagons, Wheelbarrows, etc.

Kingsbridge Contracting Co.
Maspeth Ave., Maspeth, L. I., N. Y.

LOCOMOTIVE CRANE

FOR SALE

New No. 8, 8-Wheel Browning, equipped with 50 ft. Boom and 1-yard Bucket.
FOR DELIVERY May 1st.

Miller-Crippen Equipment Co., Inc.
423 First National Bank Bldg.
Syracuse, N. Y.

SECOND-HAND

TRANSITS AND LEVELS

FOR SALE

Send for complete list with prices. Used instruments bought, sold, rented and exchanged for new.

The Engineering Agency, Inc.
Monadnock Block Chicago

Used

Transits and Levels

FOR SALE

W. J. BUFF
50 Church St. New York City.

For Sale—Immediate Delivery

One Terry & Tench

Guy Derrick

practically new, 45-ft. mast, 40-ft. boom, complete with five guys, spider, blocks, steel bull wheel and foot block.

Derrick may be inspected in Brooklyn, N. Y.

HENRY R. KENT & CO.
141 Broadway New York, N. Y.

FOR SALE

Boiler, Mixer, Pump, Etc.

One upright Steam Boiler, about 8 hp.....$10
One Eureka Concrete Mixer (no power) $75
500 Dunn Trench Braces.$1.25 each
A stock of Sewer Pipe Fittings, Bargain
Goulds Diaphragm Pump.....$10
One Friction Drum or Hoist....$15

P. J. Monaghan, South Amboy, N. J.

999 NEW & USED

Surveying & Scientific Instruments

Rented, Bought, Sold, Exchanged

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WANTED

Send us a list of any

EQUIPMENT

you may have which you wish to dispose of. ALSO STATE YOUR WANTS.

Miller-Crippen Equip. Co., Inc.
423 First Nat'l Bank Bldg., Syracuse, N. Y.

ROAD ROLLER

Contractor will sell road roller at sacrifice if purchased immediately.

"Opportunity," Box 115, Eng. Record.

Tandem Roller Bargains

One 6-ton—Almost new.
One 10-ton—Overhauled.
Also one slightly used 10-ton 3-Wheeler.

UNIVERSAL ROAD MACHINERY CO.
Kingston, N. Y.

SEARCHLIGHT SECTION

PUMPS

Wilbraham Rotary 24" suction, 24" discharge, direct connected to Wilbraham engine.

Morris Centrifugal 14" suction, 12" discharge, direct connected to Morris engine.

Several belt driven centrifugal also single and duplex steam pumps.

CHEAP PRIOR TO REMOVAL

Henry A. Hitner's Sons Co.
Station K, Philadelphia, Pa.

PIPE

Second Hand Pipe
all sizes

Guaranteed
for all purposes. Pipe fittings of all kinds. Pipe to 18" cut to sketch.

Hoisting Engines, Etc.

15 Hoisting Engines with boilers and skeleton.
150 H. P. Loco. boiler, 125 lb. steam.
One 80 H. P. boiler, 100 lb. steam.
One Lidgerwood 10½ x 14 drag line engine.
One 12¼ x 15 Lidgerwood D. C. mine engine.
One 12 H. P. Advance traction engine.
One 1650 ft. Ingersoll-Rand Imperial type air compressor.
Steam pumps, motors, etc.
One 600 ft. length 2-inch steel rope.

PIPE & CONTRACTORS SUPPLY CO.
3 DOVER STREET, NEW YORK CITY
Phone: Beekman 4640.

FOR SALE

Second Hand Sewer and Water Works Trenchers and Drag Line Machines

ALSO

Machines to Dig Open Drainage Ditches with Sloping Banks

Write if interested—with full particulars.
Ask for Catalog No. 103

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SECOND HAND PIPE

Large Stock All Sizes

Recut—Perfect Threads and Couplings

Also Large Stock Contractors' Equipment

MARINE METAL & SUPPLY CO.
167 South Street, New York

FOR SALE

Cummer Road Asphalt Plant, Complete, including Street Tools. All in first class condition.

Also One Ten-Ton Huber Roller with Combination Tractor.

Price right to quick buyer.

Conrad Sebolt
New Brunswick, N. J.

CULVERTS

4000 25-ft. sections 20-in. Spiral riveted asphalted pipe.

1200 suction 16-in. double riveted longitudinal seams, steel pipe.

500 suction of 36-in. double riveted, longitudinal seams, steel pipe.

Get our latest, free, 192-page stock list, No. E. R.-302, covering all equipment for the machine shops, power plants, foundries and all contractors' needs.

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Wrought Pipe

New and Second Hand

GUARANTEED

Large Stock—All Sizes

Special Low Prices

Eagle Pipe Supply Co., Inc.
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INQUIRIES SOLICITED

12-INCH HYDRAULIC DREDGE

Fully equipped. Electric light plant, Pontoons, Pontoon pipe, shore pipe, rubber sleeves and bands, coal scow with mast and boom. Double drum hand power with wire blocks and falls. Galley and sleeping quarters for eleven men. All in first-class condition, ready to go into commission.

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TUBING, ALL SIZES PIPE CUT TO SKETCH

SECOND HAND PIPE

Large stock, all sizes, furnished with new threads and couplings.

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CENTRIFUGAL PUMP

FOR SALE

8 in. Lawrence, direct connected to 9 x 10 vertical steam engine, for low head, about 50 ft. or less. Almost new.

HACKLEY MORRISON
Richmond, Virginia

CENTRIFUGAL PUMPS

One horizontal 8-in. discharge direct connected to 75 h.p. steam engine.
Two vertical submerged 4-in. discharge extended shaft for well. Cutler Hammer Auto Starters and float switches, one hung from floor plate and other enclosed in elevating cage, connected to vertical motors, direct current.
One 1¼ K.W. C. & C. D. C. Generator 110 volts, belt driven.

The Atlantic City Sewerage Co., Atlantic City, N. J.

FOR SALE—About 450 ft. 48 in.

New Cast Iron Bell and Spigot Pipe

Class "B." Prompt shipment, subject to prior sale.

WHITAKER-GLESSNER CO.
Portsmouth, Ohio

FOR SALE

Model "F" Parsons **Trench Machine**
Model "K" Parsons **Trench Machine**
7½ x 10 3-Drum Stroudsburg **Hoist**
2—¾-yd. Smith **Mixers,** Steam Power Steam Shovels, Steam Pumps, Guy and Stiff Leg Derricks, Hoisting Engines, Concrete Mixers and Stone Crushers.

LET ME KNOW WHAT YOU NEED

THOMAS J. LANE, 241 Bushnell Bldg., Springfield, Ohio

Trenching Machine

Parsons steam driven Model E. Shop No. 84. Good condition; cuts ditch 28" to 60" wide, and up to 20' deep.

Atlantic Construction & Supply Co.,
Owners,
Atlantic City, N. J.

FOR SALE

23—20-foot lengths, 18 inch, 14 gauge NEW Black Steel Flanged Coated

PIPE

at bargain price

ROBERTSON BROS. MFG. CO.
1036-46 W. 37th St. Chicago, Ill.

Lime Manufacturing Plant

Lime Manufacturing Plant, on trunk line midway between Jacksonville and Tampa, Florida. Best of freight rates. Substantial business already acquired in building, sanitary, fertilizer and paving stone lime.

John M. Graham, Ocala, Fla.

Wrought Iron Pipe, thoroughly overhauled, with new threads and couplings, guaranteed to give entire satisfaction. Pipe cut to sketch. It will pay to correspond with us.

ALBERT A. DAVIDSON, Inc.
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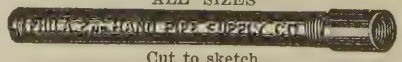
PIPE and TUBES

ALL SIZES



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Philadelphia Second Hand Pipe Supply
1003 N. 7th St., Philadelphia, Pa.

Direct Current Motors

IN OUR STOCK FOR IMMEDIATE SHIPMENT

DIRECT CURRENT MOTORS—250 VOLTS

	RPM.
1—500 HP. Thompson-Ryan	305
1—310 HP. Bullock	350
1—220 HP. Milwaukee	380
1—150 HP. General Electric, DLC	750
1—180 HP. Westinghouse	450
1—125 HP. Westinghouse	490
1—105 HP. General Electric, CL-A	950
1—85 HP. General Electric, CL-B	750
1—75 HP. General Electric, MP-H	745
2—55 HP. Allis-Chalmers	550
1—55 HP. Westinghouse	825
1—50 HP. Triumph, IF	800
1—50 HP. Allis-Chalmers	700
1—40 HP. Sprague, D	825
1—40 HP. Triumph, IF	700
1—40 HP. Westinghouse, M	930
1—32 HP. Crocker Wheeler, CM	1000
1—30 HP. Westinghouse, S	1025
5—30 HP. Northern	610
1—30 HP. Allis-Chalmers	575
1—30 HP. C. & C., MP	615
1—30 HP. Allis-Chalmers	950
1—25 HP. Crocker Wheeler, CM	750
1—25 HP. Sturtevant, MP-4	800
1—25 HP. General Electric, MP-4	610
2—20 HP. General Electric, RC	1150
2—20 HP. Westinghouse, M	1050
2—15 HP. General Electric, RC	1150
1—15 HP. Northern	700
1—15 HP. Holtzer-Cabot	1150
2—10 HP. Sprague-Lundell	1100
1—10 HP. General Electric, RC	850
1—7½ HP. C. & C. Bi-polar	1200
1—7½ HP. Bullock	1050
3—6 HP. Westinghouse, S	1465
3—5 HP. Sprague-Lundell	1060
1—5 HP. General Electric	1725
1—5 HP. Northern	1200
1—4½ HP. General Electric, CE	700/1500
1—3 HP. Hertner	1700
4—3 HP. Westinghouse, S	1800
1—2 HP. Gibbs, A	1200
1—2 HP. General Electric, DSD	1700
1—2 HP. Triumph	1750
2—1½ HP. Crocker-Wheeler, CM	1800
1—1½ HP. Triumph	1800
1—1 HP. Hisey-Wolf, O	3000

DIRECT CURRENT MOTORS—125 VOLTS

	RPM.
1—25 HP. Westinghouse, type S	850
1—25 HP. General Electric, RC-A	775
1—17 HP. Westinghouse, type S	975
1—15 HP. Crocker Wheeler	800
1—15 HP. Ceneral Electric, CQ	1000
1—15 HP. Crocker Wheeler, CM	800
2—13 HP. Westinghouse, S	875
1—13 HP. Westinghouse	1100
1—9½ HP. Crocker Wheeler, CM	1100
2—6 HP. Westinghouse, S	1465
1—5 HP. General Electric, CVC	1100
1—3¾ HP. Crocker Wheeler, CM	430
7—3 HP. Crocker Wheeler, CM	1175
8—2 HP. Crocker Wheeler, CM	1175
1—2 HP. Robbins & Meyers, vertical	1100
1—1½ HP. Crocker Wheeler, SM	810
1—1 HP. New England, E	19001
1—1 HP. Northern	1600
1—1 HP. Triumph	1735
1—1 HP. Triumph	1750
1—¾ HP. Crocker Wheeler, CM	1200

DIRECT CURRENT MOTORS—500 VOLTS

	RPM.
2—40 HP. General Electric, CL-B	650
1—30 HP. Westinghouse, S	975
1—30 HP. General Electric, MP-4	1150
1—15 HP. Westinghouse	300/600
1—15 HP. Westinghouse	650
1—7½ HP. Northern	1650
1—3 HP. General Electric, CQ	2000

MAC GOVERN & COMPANY, INC.

114 Liberty Street New York City

SEARCHLIGHT SECTION

Cooper Corliss Cross-Compound
Heavy Duty Engines

We have for prompt delivery:

Three cross-compound engines 14 x 30 x 36 serial number 1867-68 and 69. HP. from 125 R.P.M. at 150 lb. steam. Weight of engine 87,000 lb.

Three low pressure air compressors direct connected to Cooper Corliss Engines, capacity 3890 cu. ft. Pressure from 30 to 50 lb.

One high pressure air compressor with Duplex Bass Corliss Engine with cross-compound steam cylinders and simple duplex air cylinders. Steam cylinder high pressure 14″ x 36″, low pressure 26″ x 36″, air cylinder 14¼″ x 36″ stroke, capacity 920 cu. ft. air per minute at 85 R.P.M. at 100 lb. air pressure. Serial number of air cylinder 7399-7400.

The above at sacrifice prices to quick buyers.

MARINE METAL & SUPPLY CO.
167 SOUTH STREET NEW YORK CITY

Air Compressors, Etc.

1—Ingersoll-Rand Imperial, Type T-10, Steam Cylinders 9 x 12, Air Cylinders 9 x 12 and 14 x 12. 375 cubic feet capacity.
1—Sullivan Steam Driven 16″ x 16″ x 10″ x 16″. Capacity 625 cu. ft.
1—New York Franklin Steam Driven, 12″ x 12″ x 12″. Capacity 350 cu. ft.

1—Internal Furnace Boiler, 125 HP., 130 pounds Steam, with Morrison Corrugated Furnace, 90″ Diameter, 16′ over all.

1—15-ton Kelly Steam Road Roller.
1—Am., d. c. 3-drum Hoisting Engine.

HARRIS MACHINERY CO.
1025 Washington Ave., S. E., Minneapolis, Minn.

Compressor For Sale

Westinghouse air compressor, capacity 50 cubic feet per minute, direct connected to a 12 hp. electric motor, mounted on trucks, with tank. Like new—$300.

L. F. HOBBS, NORFOLK, VIRGINIA.

FOR RENT—FOR SALE

Portable Boilers

Hoisters, Air Compressors, Concrete Mixers, Centrifugal Pumps, Diving Outfits, Rock Drills, Derricks, Pile Drivers and General Contractor's Equipment, both Steam and Electrically Driven.

MARVIN BRIGGS, Inc. 167 Sixth St.
Tel. South 5471 Brooklyn, N. Y.

FOR SALE

Complete Ice Making Plant

100 tons capacity

With 2 Corliss engines, 5 150 HP. boilers, ammonia and air compressors, pumps, coils, tanks, etc. All in fine condition.

Knapp Machinery-Supply Co.
120 Liberty St. New York

FOR SALE

1—35 HP. double drum Electric Hoist, 220 volt, direct current.
1—10 x 12 Chicago Pneumatic Belt Driven Air Compressor, type G.S.B.
1—No. 1 Vulcan Steam Hammer.
1—No. 2 Vulcan Steam Hammer.
1—No. 3 Arnott Steam Hammer.

Pittsburgh Machinery & Equipment Co.
Fulton Bldg., Pittsburgh, Pa.

Contractors, Quarrymen, Etc.

We are particularly strong right now on high-grade "used" large and small

- Steam Shovels
- Locomotives
- Cars
- Hoisting Engines
- Road Rollers
- Stone Crushers
- Stone Skips
- Steel Sheet Piling
- Etc.

Send us your inquiries—we can save you money. Remember "what we say it is, it is."

WM. B. GRIMSHAW CO.
1040 Drexel Bldg. Philadelphia, Pa.

FOR SALE

1—No. 16 Koehring Street Paver. Boom and bucket; steam engine and boiler. A No. 1 condition. Used 8 months.
2—30-60 H.P. Pioneer Gas Tractors; 3 speed. Used 60 days.
14—3½-yd. Troy Reversible Trailers. Used 60 days.

George B. Curd Co.
801 Mercantile Library Bldg., Cincinnati, O

FOR SALE

Immediate Delivery

One (1) set Allis-Chalmers 30 x 14 Type B Crushing Rolls. Shipping weight 18,300 lbs. Used very little—just as good as new.

Two (2) 5-ft. Chilean Mills
One (1) 7-ft. Chilean Mill
Both in excellent condition.

Clinchfield Products Corp.
120 Broadway New York City

MOTORS

MOTORS RENTED

Contracts requiring motors for temporary installations can frequently get just the motors needed for *immediate delivery* from us, either on rental by the month, or we will sell outright, buying machines back at an agreed price when work is completed. Some of the largest contractors are among our customers.

We Buy for Spot Cash
Sell, Exchange and Repair

Send for our *"Monthly Bargain Sheet"* showing net prices on *Second-hand* electrical motors and generators. Overhauled "like new."

Largest stock of electrical machinery (second-hand) in America—alternating and direct current, all voltages.

GREGORY ELECTRIC CO.
16TH AND LINCOLN ST
CHICAGO, ILLINOIS

FOR SALE
HOISTING ENGINES
1—9 x 12 D.C. 3 drum National with Boiler
1—8¼ x 10 D.C. 3 drum Lidgerwood with Boiler
1—8¼ x 10 D.C. 3 drum Lidgerwood Skeleton
1—5 x 6 Carlin Swinging Engine
1—4½ x 6 Meade-Morrison Swinging Engine
Everything for the Contractor, New and Second-Hand.
EMPIRE ENGINEERING & EQUIPMENT CO.
311 Empire Bldg., Pittsburgh, Pa.

FOR SALE CHEAP
68 ft. 14″
BELT CONVEYOR
complete.
THOS. DORAN, JR.,
Huntington, L. I., N. Y.

CONTRACTORS' MACHINERY
No. 3 Austin Gyratory Crusher—used 1 mo.
115′ Concrete Spouting—3 yd. Dump Tubs
Concrete Mixers—¾ yd. Smith—9′ Standard
24″ Hendey Shaper—No. 5. New Haven Drill Press
7x10″ D.C.D.D. Lidgerwood Hoisting Eng.
5½″x10 D.C.D.D. National Hoisting Engine
5x8 D.C.D.D. Carlin Hoisting Engine
JOHN H. CARLIN MACHINE CO., N. S. Pittsburgh, Pa.

SEARCHLIGHT SECTION

CONTRACTOR'S PLANT

(Recently released from Sect. 13, Lexington Ave. Subway)

COMPRESSORS

2—Ingersoll "Imperial" Class T-10, Compound Steam 28x16″ Compound Air 25x15″ Stroke, 20″; Capacity 1780 cu. ft. each.

1—Sullivan WB2 Straight Line Compound Air, 20x24x14½x24; Capacity 1380 cu. ft. 230 HP. Also 1 Air Receiver 5x18′.

HOISTING ENGINES

2—Lambert Electric, 40 HP., 2 Drum with Swingers and Westinghouse Controllers and D. C. Motors, Type K.

5—Mead-Morrison (Skeleton) 7x10, No. 14¼, D.D. Link Motion (reversible).

2—Mundy (Skeleton) 7¼x10, D.D. Link Motion (reversible).

4—Mead-Morrison, Boom Swingers, 4½x6, D.C. Single Drum.

MISCELLANEOUS

1 7½-ton MACK AUTO TRUCK with dump body. 1 100-HP. BOILER Return Tube. PUMPS—Cameron Steam, Lawrence Electric Centrifugal; EDSON Diaphragm with Gasoline Engine; Ransome 2-yd. Concrete Mixer with steam engine; Steam Pile Hammers, Jacks, Rock Drills, Cars, Buckets, Shop Equipment, Mules, Cast Iron Pipe and Fittings (water and gas), etc., etc.

McMULLEN-SNARE & TRIEST, Inc.

Lexington Ave. and 131st St., New York City

Hoisting Engines

10½-in. x 12 in. double-cylinder, double drum "Lambert" Hoisting Engine with intermediate gear.

10 x 16 D. C. 3 Drum Mundy Hoisting Engine and Boiler.

Boilers

Two brand new horizontal return tubular Boilers, 125 lb. Massachusetts requirements; size, 78-in. diameter x 20 ft. long.

Howard W. Read Company
N. W. Cor. 3rd and Arch Sts.
Philadelphia, Pa.

Hoisting Engines

1—10″x12″ D.C., D.D., skeleton "Lidgerwood."

2—8¼″x10″ D.C., D.D., with boiler, "American."

1—7″x10″ D.C., D.D., with boiler, "O. & S."

1—6¼″x8″ D.C., D.D., skeleton "O. & S."

1—6¼″x8″ S.C., S.D., skeleton "O. & S."

1—6¼″x8″ S.C., S.D., with boiler, "O. & S."

1—5″x7″ D.C., D.D., with boiler, "O. & S."

2—15 hp. S.D., "Lidgerwood" electric, 220 v., 2 phase, 60 cycles.

1—S.D., gasoline hoist, "Standard Scale & Supply Co."

L. F. SEYFERT'S SONS, Inc.
437 N. THIRD STREET PHILADELPHIA, PA.

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1—Second-Hand Vertical Cross Compound, High Duty, Crank and Fly Wheel Type, Barr

Pumping Engine

Capacity per 24 hours 4,000,000 gallons. For complete specifications and price address

THE SIMMONS COMPANY
Kenosha, Wis.

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1—54″ dia. Mass. Standard H. R. T. Boiler 16′ 8″ long, for 125 lbs.

1—Steam Driven "Franklin" Air Compressor. Will accumulate 300 cu. ft. p.m.

1—30 Horsepower Steam Engine

1—Set No. 3 Hilles & Jones Plate Bending Rolls, 10′ 6″ between housings

1—⅜″ capacity Splitting Shear

JAMES RUSSELL BOILER WORKS COMPANY
C and First Streets South Boston, Mass.

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SPECIAL ATTRACTION

70 C Bucyrus Shovels
Thew Revolving Shovels
24″ gauge Davenport Locomotives with Ohio Boilers
36″ gauge Davenport, Vulcan and Porter Locomotives
Sparta Well Drills, Pumps, Boiler
Marion Side Plows, etc.
4-6-12-Yard Dump Cars

Immediate delivery and sold under one guarantee
(To be Right in every Respect)

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ELECTRIC HOISTS: Two—25 H.P. Double Drum Lidgerwood, Direct Connected, with Slewers.
STEAM SHOVEL: One—14 B. Bucyrus, with Traction.
ACME CRUSHING PLANT: One—9 x 16, Complete with Engine and Boiler.
CLAMSHELL: One—1 yard Hercules Williamson, with Teeth.
SMITH MIXERS: Two—1 yard, with Steam Engine.
SMITH MIXERS: Two—1½ yd., with Steam Engine.
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Portable Track: 750 ft. 24″—16 lbs.
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1—Thew "O" ⅝-yd. dipper, Detroit, Mich.
1—Thew "O" ⅝-yd. dipper, Buffalo, N. Y.
1—Thew "O" ⅝-yd. dipper, Boston, Mass.
1—Thew "A-1" ⅞-yd. dipper, Flint, Mich.

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Cleveland, Ohio

For Sale or Rent

1 Acme 9½ portable **crushing plant**, consisting of a fifty-ton bin, 30 H.P. boiler with Ajax engine mounted on same.
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2 Single drum electric **hoist**, without power.
1 Sullivan UH-2 steam **drills**.
1 Buffalo-Pitts 10-ton steam **roller**.
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The above equipment is all in good condition and can be prepared for immediate delivery.

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New and Rebuilt

½ & ¾ yd., $2.00 per day
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Send for catalog

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For Immediate Delivery

Worthington Centrifugal Pump, 10 x 12 direct connected to double cylinder, vertical steam engine.
Pennsylvania Railroad Locomotive, Standard Gauge, type "R," four 50″ drive wheels, 16 x 24″ cylinder, in good condition.
Clam Shell Bucket, Williams, 1 yd.
Hoisting Engine, 10 x 12, DD., DC., Lidgerwood, with 50 H.P. Boiler, recently overhauled.
Cable Excavator, with complete equipment.
Stiff Leg Derrick, 50-ft. Boom, 8¼ x 10 DD., DC., Lidgerwood Hoisting Engine with boiler and Mundy Swinging Engine complete with all fittings.
Air Compressors.
Concrete Mixers.
Locomotive Cranes, 10 to 40 ton.
Steam Shovels, ⅝ to 3½ yds., all makes.
Locomotives, various sizes.

Will Sell or Rent. Complete Lists sent upon request.

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Plant For Sale

1 Model 28 Marion Revolving Traction Shovel ⅝-yd.
1 24″ gage locomotive
2 Gondolas (40000 and 80000 lbs.)
4000 Wood ties for 24″ gage railroad
6 Troy reversible spreaders, 4-yd.
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Private equipment, good condition, ready for shipment, closing out

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Plant and Equipment Used on Construction of

Ashokan Dam and Dikes

Shovels	Mixers
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Crushers	Steam Rollers
Elevators	Steel Skips
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Drills	Compressors
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Standard and narrow gauge Locomotives, Cars, etc.

All equipment overhauled in our shops and in first class second hand condition.

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1—6¼ x 10 D.D., D.C., Stroudsburg Hoist with Boiler, reverse link type.
1—9″ x 18″ Ft. Wayne Steel Frame Jaw Crusher.
1—12 H.P. Hercules Gas Engine with gas and kerosene carburetor. Equipped with clutch, also belt.
3—3½-yd. steel wheel, roller bearing, reversible dump wagons or trailers.
6—No. 2½ wheelers.
Most of above equipment has been in use for only a part of the past season.

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1—Conical sand screen equipped with driving mechanism. Capacity about 15 cu. yds. per hr. of washed material.
In answering give full details.

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Type "O" Thew **STEAM SHOVEL**, good, cheap for prompt csah. **DERRICKS**, guy and stiff leg. Contractors **DUMP WAGONS**, 1½ yard.

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One 3-yard Orange Peel. Condition A-1.

DERRICK

One Steel Guy, 70 ft. mast, 82 ft. boom.

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70 Ton Bucyrus Steam Shovel, complete with 2½-yd. bucket; excellent condition; available at once.

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65-ton

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2½-yard dipper. Ready for operation.

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"American" 8¼ x 10 Erectors

Hoisting Engine

D/D D/C with extension shaft and four independent Bronze Bushed Clutch Winches, with new boiler. Also—

One Oregon Fir Stiff Leg

Derrick

with mast 18 x 18 and 100-foot sectional steel boom with 16-foot bull wheel.

Full line of Concrete Mixers and Hoisting Engines.

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15-ton, 8-wheel Browning, 2 drums, 44′ boom.
10-ton Industrial, 4-wheel, single line, 25′ boom.

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Lidgerwood Hoists

10—Lidgerwood Hoists 9″ x 10″ D.C.D.D.
10—Lidgerwood Hoists 12″ x 15″ D.C.D.D.
Without boilers. Immediate delivery.

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CONCRETE MIXERS

Smith 21 cu. ft. steam driven Concrete Mixer; complete with side loader. Excellent condition.

Ransom ¾ yd. portable Concrete Mixer, direct connected to motor hoist attachment.

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75-ton Atlantic type, practically new, 2½-yd. Dipper, Illinois shipment, complete with all parts, only used 6 months. $4,200. Immediate shipment, guaranteed.

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3-tons at 13 ft., Brownhoist, 20-ft. boom, single line.

10-ton American, 40-ft. boom for Clam Shell Bucket.

One 15-ton American, 40-ft. boom, standard gage, 4-wheel, equipped for bucket.

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Compressors. Boilers.
Mixers. Derricks. Cableways.

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Shop and Yard Cranes

40′—5 Ton 3-Motor Shop Crane, Box Girders.
85′—10 Ton 1-Motor Shop Crane, 20″ I-Beams.
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Rails, Derricks, Equipment.
Immediate shipment, Reasonable prices.

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2—25-ton, 8-wheel Ohios.
1—15-ton, 8-wheel Brown Hoist.
1—10-ton, 4-wheel Industrial.

LIFTING MAGNET

1—43″ new Cutler-Hammer.

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1—1¼-yd. Williams.
1—1½-yd. Industrial.
1—1½-yd. McMyler.

Above cranes are our own property and for immediate delivery.

The Factory Products Co., Inc.
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Locomotive Cranes

10-ton 4-wheel Browning
15-ton 4-wheel 10′ gauge Browning
5-ton 4-wheel Williamson
5-ton 4-wheel Brown Hoist traction
15-ton 8-wheel Industrial

Peerless Crane, 14′ 6″ gauge, with 35 ft. boom
1-yd. Owen Clam Shell Bucket
7 x 10 Stroudsburg Engine

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1—Stiff Leg, 35 ft. mast, 60 ft. boom
3—Guy, 65 ft. mast (14 x 14), 60 ft. boom (12 x 12)

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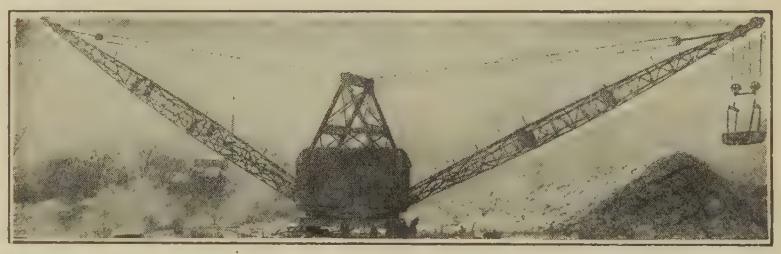
6—1⅝-yd. Stuebner bottom dump
1—1-yd. McMyler clamshell
1—1-yd. Owen clamshell
1—1½-yd. Class E Hayward clamshell
1—1-yd. Williams clamshell
1—70 cu. ft. Brown Hoist clamshell

J. C. HOUSTON
50 Church St. New York, N. Y.

CRANE—PUMPS—SKIPS



Browning double-boom revolving crane, 100 ft. booms, capacity 10 tons. Booms may be operated independently, hoisting, lowering and rotating simultaneously. One boom equipped for dragline.

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Eight Worthington volute, single stage centrifugal, 6″ discharge, 8″ suction, capacity 1000 gallons per minute against 50′ total head at 750 R.P.M. Each pump has extended bed plate for motor. Shaft finished to take pulley. Each $75.

Three Worthington volutes, single stage centrifugal, 12″ discharge, 14″ suction, capacity 4500 gallons per minute against 50′ total head at 355 R.P.M. Belt driven pulley 31 x 14″, outboard bearing. Each $90.

Five Cameron 7 x 8 x 13″ brass lined pumps, suction 5″, discharge 5″, capacity 261 gallons per minute. Each $75.

SKIPS (new)

Two Steel open end skips, capacity 5 cu. yds., dimensions, 8 ft. x 8 ft., 30″ deep.

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Lockport, N. Y.
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1 Brownhoist 15 T.4 W. 38′ B. 54″ boiler, auto couplers etc. Just rebuilt at manufacturer's shops. Could take generator and magnet. Extra drum procurable if required for bucket work. Immediate. New York.

1 Exeter 5 T. 4 W. double drum, any boom. Brand new. 60 d. del. Penna.

1 American Hoist & Derrick Co. 10 T. 4 W. d. d. 26′ b. immediate. S. Carolina.

1 Brand New 20 T. Ohio 8-wheel. Immediate. Southern Del.

TITAN EQUIPMENT CO.
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FOR SALE

2 McMyler Revolving Whirlies

14′ 6″ gage—45′ boom. Will handle one-yard clamshell bucket. Good shape.

Price for quick sale $1500

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Write—Wire—Telephone.

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Cleveland, Ohio

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No. 15 Koehring Mixer, steam driven with side loader and water tank.
No. 20 Koehring Mixer, steam driven with side loader and water tank.
No. 30 Koehring Mixer, steam driven with side loader and water tank.

HOISTING ENGINES

7¼ x 10 Mundy Hoisting Engine with boiler.

PUMPS

Two Pratt Boiler Feed Pumps.
One Centrifugal Pump, gasoline driven.

CHUTES, BUCKETS, ETC.

Three Insley Chutes 20 ft. long.
Two Insley Chutes 10 ft. long.
Three Insley Controllable Form Buckets, bottom dump.
Three Insley trucks for buckets.
One Insley Receiving Hopper.
One Insley Roller Hoist Bucket.

STEAM SHOVEL

Model 31 Marion Shovel, equipped with drag line and dipper sticks.

All this material is in splendid condition and has seen very little service. The Hoisting Engine has never had fire in the boiler. We will sell all or any part of this equipment f.o.b. St. Louis, Mo.

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1—Marion 35 R.R. trucks 1½ yd. dip.
1—Marion 31 traction, 1 yd. dip.
1—Marion 28 traction, ¾ yd. dip.
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2—Bucyrus 70C R.R. 2½ yd. dip.
1—Marion 41 R.R. and traction, 1½ yd. dip.
1—Bucyrus 40C R.R. 1¾ yd. dip.
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1—Thew No. 0 traction, ⅝ yd. dip.

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1—17 ton Brownhoist.
1—15 ton Orten & Steinbrenner.
1—15 ton Browning.
1—10 ton Brownhoist.

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100—4 yd. Western 36" gauge.
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29—12 yd. Western std. gauge.

LOCOMOTIVES

5—10 x 16 Porter and Vulcans 36" gauge.
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1—13 x 18 Vulcan, 36" gauge.
2—13 x 18 Vulcans, 4'8½" gauge.

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FOR SALE

15,000 ft. Portable track, 24" gauge
28 Koppel Cars, 36' capacity, 24" gauge
1—6-ton Saddle Tank Locomotive, 24" gauge
1—Model 45 Bucyrus Shovel, 1½-yd. dipper
1—No. 5 McCully Gyratory Crusher
1—10x16 Porter Locomotive, 36" gauge
1—10x16 Vulcan Locomotive, 36" gauge
20—4-yd. Dump Cars, 36" gauge
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1—20 H.P. Ames Portable Boiler and Engine on wheels

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STOCK BARGAINS

400 tons 35 lb. rails with angle bars.
75 tons 60 lb. rails with angle bars.
12,000 ft. 4/0 triple braided solid wire.
Two 60 HP. Lambert, 2 drum, electric hoists with boom swinger, 220 volts, D.C.
Atlas electric locomotive 36" gage, 220 volts, D.C.
Baldwin S. T. locomotive 13½" x 22" S.G. 6 driver.
2—65 ton Bucyrus shovels S.G. 2½ yd. dippers.
2—Lidgerwood hoisters 14" x 18" D.C., 3 drum, like new.
Several compressors, new and second-hand machinery, pipe, etc., for contractors, mills, mines, etc.

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10,000 tons of first class Relaying Rails, suitable for export.

Also, a large tonnage of 30 to 75 lb. RELAYING RAILS, with Angle Bars, for domestic use; available for prompt shipment.

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We have a complete line of high grade equipment, including—

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STEAM SHOVELS
Drag Lines — Locomotive Cranes
PASSENGER AND FREIGHT CARS

Please send us your inquiries. It will pay you to do so.

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SPECIAL OFFER

Relaying Rails

1100 tons—40 lb.
1150 tons—50 lb.
1000 tons—68½ lb.
350 tons—70 lb.

and other lots of 16 to 75 lb. new and relaying rails at low prices, for immediate delivery.

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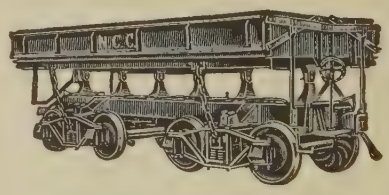
2000 tons 56 lb. relayers with bars, some loaded.
500 tons 30s to 40s relayers, with bars.
4000 tons 20 lb. to 100 lb., with bars.
4000 pairs 85 lb. continuous rail joints.
Any and quick delivery. Inquire for prices. We are in the market for your old railway material, relaying rail and scrap iron.

HIRSCH ROLLING MILL CO.
Shops and Rolling Mills. **St. Louis, Mo.**

DUMP CARS!



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12 Yard — Hand Dump
All-Steel — Either Side

Standard gauge Western & Oliver type. We have a large number on hand and can make a very interesting proposition whether you require them for permanent or temporary use. Write to-day for full particulars, stating your requirements.

HARRIS BROTHERS CO.
CHICAGO

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narrow and standard gage, 6 to 90 tons ready for service—also CARS and STEAM SHOVELS

SOUTHERN IRON & EQUIPMENT CO.
Atlanta, Ga.

24-Inch Industrial Track

One mile 24 Portable track with switches, 30—1 yard and 1½ yard V-shaped cars and 2—24 inch gage Koppel locomotives.

Send for our complete list.

RALPH R. LEWIS CO.
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500 ft. span Lambert Cableway with steam hoist and buckets.
15 Steel Frame Universal Clamshell Excavator complete.
12" x 12" Triplex Pump, double acting.
26" x 42" First Motion Coal Hoists.
2—600 cu. ft. belted Air Compressors.
12—70 ton Watson-Stillman Hydraulic Shield Jacks. Pump for same.
1180 cu. ft. low pressure Air Compressor.

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RAILS 50 Miles 60 Lb.

A.S.C.E. Section with continuous bars.
Almost New. Western Delivery.
CARS, EQUIPMENT, PILING
ZELNICKER IN ST. LOUIS

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75 Tons
35-lb. Relaying Rails

HENRY LEVIS & CO.,
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SEARCHLIGHT SECTION

MARSH'S GUARANTEED LIST

Crushers
1—No. 5 Gates style "D" crusher.
1—No. 6 Gates style "K."
1—No. 7½ Gates style "D."
1—No. 9 McCully. Almost new.
1—Allis-Chalmers 62" x 48" Jaw Crusher.
We also have or can get you other sizes.

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4—American 85-ton, 10-wheelers, 4 years old, 200 lb. pressure boilers, good as new, new 1911.
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1—50-ton 10-wheeler, ready for main-line service.
1—Baldwin 4-wheel saddle tank, 35 tons, st. gg. overhauled.
1—American saddle-tank, 4-wheel, 18-tons, st. gg. Perfect.
1—Vulcan 4-wheel saddle-tank, 36" gauge, 18 tons.
2—Davenport 4-wheel saddle-tank, 36" gauge, 14 tons.

Compressors
3—"Imperial X-B-2" Ingersoll-Rand belted, 2400' each.
1—Ingersoll-Rand type CJ, 2-stage, belted, 1000' cap.
1—Ingersoll-Rand two-stage, steam driven, 720'. Also smaller ones.

Buckets
1—2-yd. Page (heavy) almost new.
1—1-yd. Page (standard) good.
1—¾-yd. Owens Clam Shell.
1—1-yd. Williams.
1—1½-yd. Hayward and others.

Shovels
1—70-C Bucyrus, with 2½-yard rock dipper, just overhauled.
1—95-C Bucyrus, 3½-yard dipper. Almost new.
1—Model "75" Marion, with 40' boom, 2½ yard dipper. Fine.
2—No. 0 Thews, traction, ⅝-yard dipper.
1—No. 1 Thew traction shovel, 1¼-yard. Almost new.
1—Model "31" Marion, one year old.

Cranes
1—Brown-hoist, 20-ton, 8-wheel, 50' boom. Almost new.
1—Brown-hoist, 8-wheel, 40-ton, 55' boom. 3-yard bucket.
2—McMyler Whirleys, 20-ton, 50' boom, 1½-yard buckets.

Cars
30—Western 4-yd. 36" gauge, fine condition.
10—Western 12-yd. air-dumps, M. C. B., st. gg.
20—2-yd. all-steel-end-dump quarry cars.

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1—No. 1 Austin, caterpillar traction, 2 years old.
1—No. 0 Austin, caterpillar traction, used 3 months.
1—No. 00 Austin, caterpillar traction, 2 years old.
1—5½' Buckeye, caterpillar, good as new.
Miscellaneous: Drag-lines, hoisting engines, tube-mills, steam-rollers and all kinds of contractors' equipment.

WE OWN OR CONTROL ALL THE ABOVE, AND WILL **GUARANTEE IT TO BE EXACTLY AS REPRESENTED.**
We are constantly buying additional equipment, so if you don't see what you want, write, wire or telephone us at our expense.

GEORGE C. MARSH & CO., 733 Old Colony Building, Chicago

Locomotives
Standard Gauge six-wheeled Switch Engine with tender, weight of engine 37,700 lb., cylinders 17 in. x 24 in., wheel centers 44 in. diameter, wheel base 10 ft. 0 in., steam pressure 140 lb. Made by the Baldwin Locomotive Works. Price, $3,000.

One Standard Gauge four-wheeled Switch Engine with tender, cylinders 16 x 24, wheel centers 44 in., wheel base 7 ft. 6 in., weight of engine 57,100 lb. State Boiler Inspector allows 140 lb. steam pressure. Made by the T. H. & I. R. R. Price $1,500.

Stationary Engine
One vertical 15-h.p. center crank, steam engine with governor, cylinder 7 in. x 8 in., diameter of pulley 30 in. Price $125.

Steam Engine Governor
One 30-h.p. horizontal, center crank steam engine governor, cylinder 10 in. x 12 in. One pulley 40 in. diameter. One pulley 24 in. diameter. Price $175.

Air Pumps
Four 9½-in. Westinghouse air pumps. Price $50 each.

Buckets
One 1-yd. four-blade Orange peel bucket. Price $100.

One 1-yd. Clam Shell bucket. Price $100.

One 1½-yd. Clam Shell bucket. Price $175.

Steam Shovel
One 75-ton Bucyrus steam shovel in good overhauled condition. Price $4,000.

Air Compressor
One Duplex Air Compressor, capacity 550 feet per minute at 150 revolutions, diameter of steam cylinder 12 inches, diameter of air cylinder 12 inches, length of stroke 14 inches, suitable for 100 pounds air pressure with 80 pounds pressure of steam.

While this machine has been used it is as efficient as it was when new. We guarantee it to be in first-class condition, and it is offered for sale at any reasonable price that a purchaser might make.

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BUTLER BROTHERS
PENGILLY, MINNESOTA

Immediate Delivery

BOILERS
1—18 H.P. Vertical Boiler
1—25 H.P. Vertical Boiler on trucks
1—40 H.P. Locomotive Fire Box Boiler
1—50 H.P. Locomotive Fire Box Boiler

DERRICKS
1—110' Mast, 100' boom All Steel Guy Line Derrick, 25-Ton capacity with 4 16" triple heavy blocks, 1 16" cheek block, 8 165' guys, 1 18' dredge chain
1—American Hoist & Derrick Co.'s 50' 10 x 10 trussed boom, 12 x 12 mast stiff leg bucket handling derrick
4—20 Ton Terry & Tench 16 x 16 Oregon Fir Stiff Leg Building Derrick 40' mast, 60' boom

TRENCH MACHINES
1—Monahan Trench Machine steam engine and boiler, cuts from 24" to 50" wide, 17' deep
1—Model "K" Parsons Trench Machine, gasoline power, cuts from 24" to 48" wide, 15' deep
1—Model "E" Parsons Trench Machine, steam power, cuts from 28" to 60" wide, 20' deep
1—Model "F" Parsons Trench Machine, steam power, cuts from 28" to 78" wide, 20' deep.

CONCRETE MIXERS
1—4 S Rex Low Charging Mixer with gasoline engine on trucks
1—¼ yd. Chain Belt Concrete Mixer on trucks, steam engine, boiler, loader and water tank
1—¾-yd. Marsh-Capron Mixer on trucks with engine, and boiler, loader and water tank
1—No. 12 Chain Belt, Paving Mixer, engine and boiler, traction drive, spout discharge

HOISTING ENGINES
1—5¼ x 8 D.C., D.D., Mundy Hoisting Engine, complete with boiler
1—6½ x 12 D.C., D.D., Mundy Hoisting Engine, complete with boiler and swinging gear
1—6¼ x 10 D.C., D.D., Mundy Hoisting Engine, complete with boiler

LOCOMOTIVES
1— 9 x 14, 36" gauge Davenport Locomotive
1—10 x 16, 36" gauge Vulcan Locomotive
1—10 x 16, 36" gauge Davenport Locomotive

STEAM SHOVELS
1—Erie Traction Shovel with ¾-yd. Dipper; new Aug., 1916
1—Model 70-C Bucyrus Steam Shovel with 2½ and 1¼-yd. Dippers, mounted on trussed timbers for sewer work

W. B. LOUER CO.
Office and Show Room, Ground Floor, Old Colony Bldg., Chicago

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CONSTRUCTION EQUIPMENT

STEAM SHOVEL OUTFITS — LOCOMOTIVES DUMP CARS — LOCOMOTIVE CRANES

H. KLEINHANS CO. — **Oliver Bldg., PITTSBURGH, PA.**

CONTRACTORS' PLANT
FOR SALE

Locomotive Cranes, Derricks, Concrete Mixers, Steam Shovels, Locomotives, Cars, Rails, Hoisting Engines, Electric Hoists, Cableways.

All necessary equipment for complete plant.

JOHN M. GREENE
267 Drexel Bldg., Philadelphia, Pa.

FOR SALE OR RENT—
1 No. 2 Climax Crusher on trucks.
1 15 HP. Portable Engine and Boiler.
2 9 x 14 Baldwin Locomotives, 36" gauge.
1 No. 9 Chicago Cube Mixer, side loader gasoline engine. 1—1½-yd. Hayward Clam Shell Bucket. 1—14 x 7 x 12 Duplex Pump.
Hoisting Engines, two or three drum, all sizes.

BECKWITH MACHINERY CO.
Office, Warehouses and Yards,
108 W. Park Way, N. S. Pittsburg, Pa.

DALLETT & COMPANY,
413 Harrison Building, Phila., Pa.
have FOR SALE a

Large Contractor's Plant
consisting of Boilers, Cars, 36" gauge Locomotives, Derricks, Hoisting Engines, Jacks, Concrete Mixers, Pumps, Pipe, Small Tools, etc. List gladly furnished upon request.

FOR SALE
10 Studebaker 2-yd. Dump Wagons.
2 Studebaker 2-yd. Dump Boxes.
1 Portable 12 H.P. Gasoline Engine.
2 Portable 9 H.P. Lambert Gasoline Engines.
The above are all new goods and we will sell them at a very low price, as we are going out of this line.

JOHN DORSCH & SONS,
209 Wells St., Milwaukee, Wis.

WIRE CABLE
1-pc. 2½", is 2000 ft. long. Can ship immediately from stock.
First Class and Bargain.

Write for New 20-Page Bulletin.

ZELNICKER IN ST. LOUIS

SEARCHLIGHT SECTION

FOR SALE

1 Dragline Bucyrus 175-B Electric 125' Boom, A-1 condition.
1 Steam shovel Marion Model 76, Shop No. 2777.
3 Channelers, Stone, Sullivan, Duplex, latest; also steels, Fjab.
2 Drills, Air, Sullivan, 3⅝" Tripod; also 1½" hollow Fjab steel and 4 sec. 1¼" x 50' Hose, New.
1 Pump Centrifugal, 10", Morris, Steam Driven, direct connected, for up to 50' head and one 6" Erie Sand, belted. Used four weeks.
2 Pumps, Duplex, Steam, 6 x 4 x 6 Worthington and Deane, one 5¼ x 3½ x 5 Deane and one 10 x 6 x 10 Advance.
1 Compound, Duplex Deane 8 x 12 x 7 x 10.
1 Air Receiver 26" x 6'.
1 Heater, Feed water, Stillwell, Platt Iron Works, Dayton, O., 300 H.P.
1 Arbor Saw, Vulcan Iron Works, 13 x 13 x 40 timber.
1 Derrick, Stiffleg, 5-ton, 36' boom.
2 Boilers, vertical, 30 x 60 & 42 x 108.
1 Motor, 10 H.P., G. E., 720 RPM., Type K, 3 ph., 60 cyc., 440 V. compensator, Slid. base, 9 x 9 pulley.
1 Engine, 9 x 9 and 10 x 10 Vertical, O. & S. and Nat. Drill Co.
1 Engine 9 x 9 and 8 x 8 Vertical Duplex Marine, O. & S. and one E. H. Wachs, same as latter.
500 ft. 4" Black Pipe; also large pipe fittings and short good pieces large pipe.
1 Turntable Pile Driver without engine and hammer.
1 Hopper, concrete or stone or sand, Steel, 12' Dia. with gate.

J. O. HEYWORTH
HARVESTER BUILDING CHICAGO

FOR IMMEDIATE DELIVERY

TIES 3"x4"—3' 6"
4"x5"—4' 6"
4"x6"—6'

Also PILING and SHEET PILING
My prices will interest you.
F. H. WELLS, Agent, Savannah, N. Y.

FOR SALE
600 pieces Carnegie

Steel Piling

40-lb. section, in lengths between 20 and 25 ft. In No. 1 condition.

Also 1700 ft. cableway with

Steel Towers

In first class condition. Complete with engine.

THE VANG CONSTRUCTION CO.,
21 Third National Bank Bldg.,
Cumberland, Md.

IMMEDIATE SHIPMENT
9—20"

I-BEAMS

as good as new. Also lot of light section relayers. Wire for prices.

M. K. FRANK
Frick Bldg. Pittsburgh, Pa.

PLATE GIRDERS

50 plate girders, 6' 0" deep, 55' to 70' long, first-class condition, particulars and price on request.

HENRY A. HITNER'S SONS CO.
Station K, Philadelphia, Pa.

STEEL RAILS

50 Miles, 60 lb.
A.S.C.E. Section with continuous bars.
Almost New—Western Delivery

PILING

Prompt shipment from stock

58 pcs. 10 ft. Lack. 7" x ¼"
187 pcs. 14 ft. Lack. 7" x ¼"
87 pcs. 15 ft. Lack. 7" x ¼"
152 pcs. 22 ft. Lack. 7" x ¼"
123 pcs. 10 ft. Lack. 12¾ x ⅜"
175 pcs. 14 ft. Lack. 12¾ x ⅜"
79 pcs. 18 ft. Lack. 12¾ x ⅜"
153 pcs. 20 ft. Lack. 12¾ x ⅜"
65 pcs. 21 ft. Lack. 12¾ x ⅜"
76 pcs. 28 ft. Lack. 13¾ x ⅜"
185 pcs. 20 ft. Lack. 14" x ⅜"
33 pcs. 32 ft. Lack. 14" x ⅜"
61 pcs. 38 ft. Lack. 14" x ⅜"
55 pcs. 44 ft. Lack. 14" x ⅜"
225 pcs. 20 ft. U. S. 12½" x ⅜"
625 pcs. 20 ft. U. S. 12" x ⅜"
24 pcs. 9 ft. Wemlinger 12" x 3/16"
111 pcs. 13 ft. Wemlinger 12" x 3/16"

We have other lots—what do you need?

CONCRETE MIXER

No 1-B Koehring with Hopper, Engine and Boiler on truck. **First class.**

PIPE

5,000 ft. 8" Standard Black Pipe, weight 28½ lb. per ft., threaded and with couplings.
Practically New—Immediate Shipment

LOCOMOTIVES, EQUIPMENT, MACHINERY, all kinds, TRACK MATERIALS
Write for 40-page bargain list.

ZELNICKER IN ST. LOUIS
First Natl. Bank, Chicago Hennen Bldg., New Orleans
General Office, 325 Locust, St. Louis

Contractors Engineers

We have in stock for immediate delivery

150 9" Beams 8' to 19' long.
100 12" Beams 5' to 19' long.
750 15" Beams 8' to 20' long.
150 20" Beams 8' to 20' long.

All material in fine condition. Inspection invited.

The Perry Buxton Doane Co.
Chelsea, Mass.

STEEL PILING SECOND-HAND

Wemlinger, Type A, 12"x⅛"
200 pcs. 4 ft. long 600 pcs. 10 ft. long
70 pcs. 6 ft. long 307 pcs. 12 ft. long

Wemlinger, Type B, 12"x3/16"
400 pcs. 10 ft. long 980 pcs. 20 ft. long
135 pcs. 14 ft. long 250 pcs. 24 ft. long

United States, 6" and 9"x¼"
240 pcs. 10 ft. long 518 pcs. 18 ft. long
96 pcs. 13 ft. long 170 pcs. 20 ft. long

United States, 12½"x⅜"
85 pcs. 14 ft. long 140 pcs. 18 ft. long
50 pcs. 15 ft. long 100 pcs. 35 ft. long
45 pcs. 16 ft. long 335 pcs. 36 ft. long

Lackawanna, 7"x¼"
38 pcs. 8 ft. long 200 pcs. 12 ft. long
50 pcs. 9 ft. long 250 pcs. 14 ft. long
65 pcs. 10 ft. long 78 pcs. 22 ft. long

Lackawanna, 12¾" and 14"x⅜"
200 pcs. 16 ft. long 180 pcs. 26 ft. long
150 pcs. 18 ft. long 120 pcs. 33 ft. long
150 pcs. 20 ft. long 400 pcs. 35 ft. long
80 pcs. 24 ft. long 160 pcs. 40 ft. long

IF YOU DON'T SEE WHAT YOU WANT — ASK FOR IT

Wemlinger Steel Piling Company
42 Whitehall St., New York City
"The Steel Piling Exchange"

FOR SALE

Four 304 B & W Water Tube Boilers, STEEL HEADERS, double butt strapped drums, complete with stacks, 180 lbs. steam; 150 H.P. Locomotive Type Boiler, 125 lbs. steam; two new Concrete Mixers, on wheels, with gasoline engines; cheap; lot ¾, ⅞, 1⅛, 1¼, 1⅜, 1½, 1¾, 2 and 2¼ plow steel wire ropes, different lengths, on reels, fine condition; 12 x 12 x 14 Air Compressor; two 18 x 9 x 20 Brass Fitted Cameron Pumps; two No. 6 and 7½ Gyratory Crushers, fine condition; four Round Closed Wooden Tanks, new, with manholes, 10 ft. diameter x 10 ft. high, 3" material; 20 High pressure closed and open tanks, round and square, 48 and 36" diameter x 12 and 15 ft. long and 9 ft. diameter x 28 ft. long; also other sizes.

EASTON MACHINERY COMPANY
Drake Bldg., Easton, Pa.

"Portable" Steel Buildings

for bunk houses, equipment storage, cement sheds, factory extensions, garages. All purposes of one story. New and second hand. Made of galvanized steel in units of 2 feet in length. Walls 8'-9'-10'-12' height.

Ask for Catalog "N"

C. D. PRUDEN CO., BALTIMORE, MD.

Building Material

FOR SALE—CHEAP

New "Eveready" Saw Rig complete.
"Ransome" 10 ft. (Bantam) Concrete Mixer, with side loader and gasoline engine.
One Brest Derrick.
10,000 cleaned, second-hand brick.
One Contractor's Level.
One Engineer's Transit.

Standard Bldg. Co.
147 W. 18th St. New York City

ELEVATED STEEL TANK

400,000 gal. Elevated Steel Tank with stand pipe; excellent condition—immediate shipment.

Get our latest, free, 192-page stock list No. ER-302, covering all equipment for the machine shops, power plants, foundries and all contractors' needs.

HARRIS BROTHERS CO., Chicago.

FOR SALE

Two Plate Girders, 5'x56' 8"; ⅜" web; 4 flange angles, 8"x6"x11/16".
Location New York City.

Holbrook, Cabot & Rollins Corporation,
52 Vanderbilt Ave., New York City.

PREPARE!

"Get Ready" Means *"Get Up Buildings"* To Thousands of Industrial Concerns

Shelters of all kinds will be needed over hurry up operations. Buildings must be provided for storage. Additions to factories must be erected. New shipping docks must be constructed and sheltered.

Truscon STEEL BUILDINGS

PORTABLE PERMANENT

are ready to meet all these demands for speed in erection. Right now, at a time like this when thousands of manufacturers and industrial concerns throughout the country will be pushed to the limit, *Truscon* Steel Buildings have an important role assigned to them in the place of National Preparedness.

Truscon Steel Buildings are put up rapidly and easily on any site, a hammer being practically the only tool required. The heavy gauge open hearth steel sections are drawn tightly together by a tee bolt and wedge construction. Roofing runs horizontally; roof plates have air-tight interlocking connection. Erected buildings are strong and substantial, sealed against weather conditions, permanent while up, yet quickly and easily taken apart and moved without depreciation of strength or value.

Write for Bulletins, or, better yet, send us the following specifications for a specific quotation—Width and length of building required. Number of windows. Number of doors, single and double. Are doors to be solid or provided with opening for glass? Type of foundation floor—concrete or wood? Will raised curb be used around building? What height, and will it be wood or concrete?

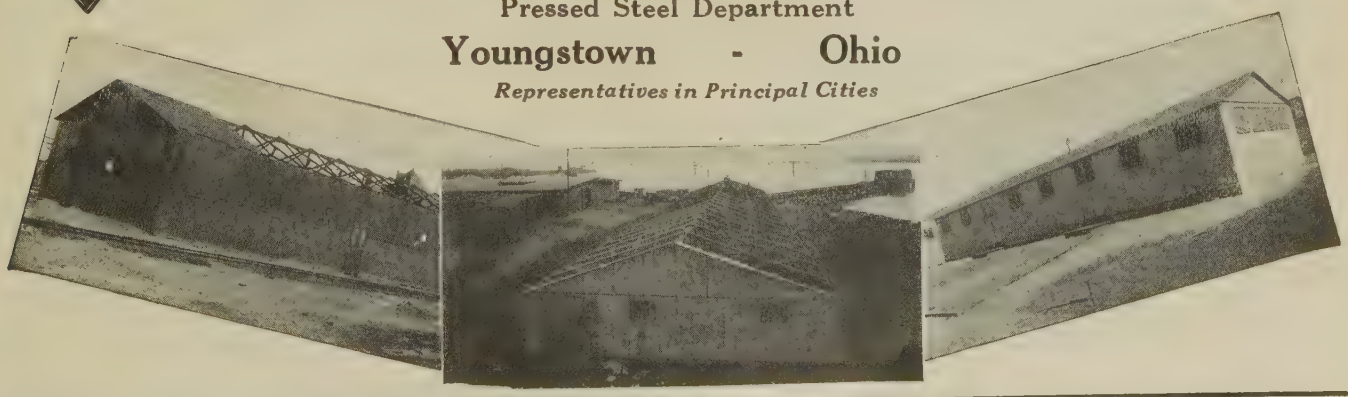
KAHN Building Products TRUSSED CONCRETE STEEL CO

Trussed Concrete Steel Co.

Pressed Steel Department

Youngstown - Ohio

Representatives in Principal Cities



Notice to Subscribers

The consolidated Engineering News-Record will be sent to all subscribers of both Engineering News and Engineering Record for the full unexpired terms of their present subscriptions. Subscribers to both papers will receive Engineering News-Record for the **combined** unexpired terms of subscriptions to both papers.

For instance, if you have 5 months due you on Engineering News and 6 months due you on Engineering Record, you will receive the Engineering News-Record for eleven months before a renewal is necessary.

What this Consolidation Means to You

It Means that you will get the best of Two Papers in one

You will miss nothing that you have valued in your former reading of either of the two constituent papers—the characteristic excellencies of each will be perpetuated in the new paper.

It Means a Doubled Service

It means that you will have serving you the COMBINED Editorial Staffs, the COMBINED sets of Contributors and Correspondents, the COMBINED wisdom, experience, enterprise, energies and enthusiasm of **both** Engineering News and Engineering Record.

It Means a Thoroughly Complete Service

You will get more Construction News items—more of the new methods—more details of important new work. With both staffs going over the field for you with a fine-toothed comb, you are absolutely sure of getting everything of value.

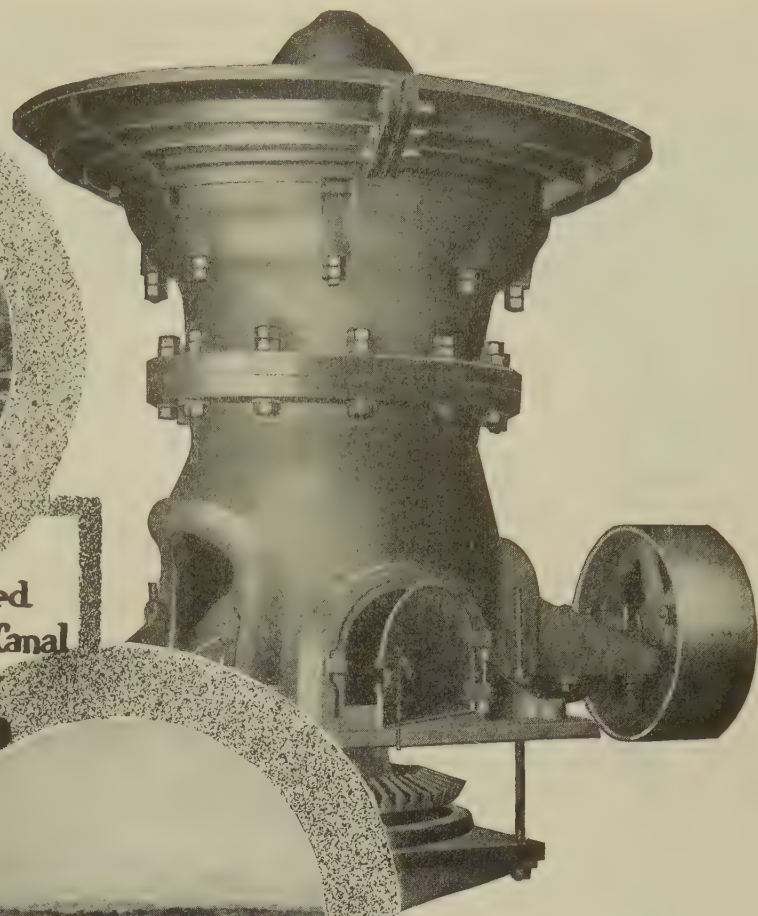
It Means a Service that is Essential to You

With so much going on of vital interest to you, with this doubled service for bringing it to you, with a greater necessity than ever for you to keep in touch with the men and the ideas that are reshaping Engineering and Contracting Practice,

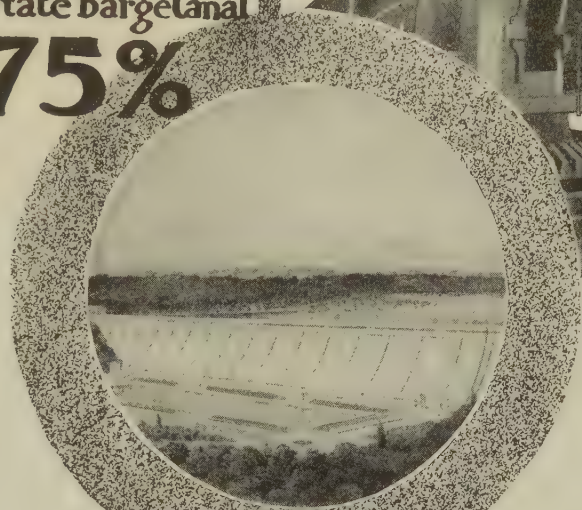
A Membership in the Engineering News-Record Family Offers You an Opportunity Unparalleled

50%

Of all rock crushed on N.Y. State Barge Canal



75%



Of all rock crushed on Catskill Aqueduct

McCully Gyratory Crushers

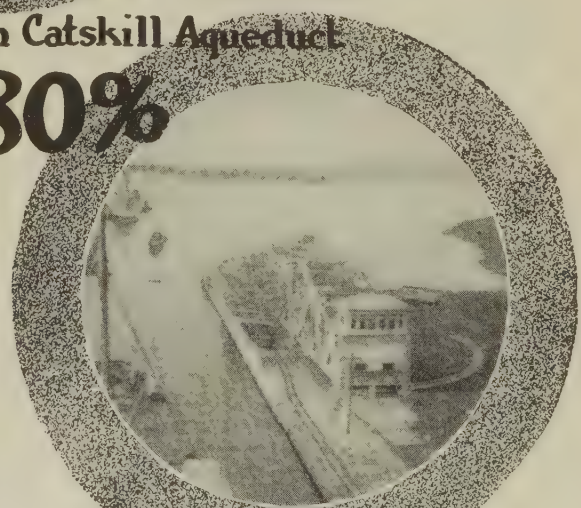
Picked for the biggest engineering jobs of the age — the New York State Barge Canal—the Catskill Aqueduct—the Panama Canal.

These great undertakings represent many sub-let contracts—many contracting firms and engineers—men with varied ideas and preferences. As a result of their choice, an average of the three jobs shows that 68% of all the rock was crushed by the McCully Gyratory Crusher.

Put a McCully Crusher to work on your rock crushing job. It will make good for you as it has done here and on hundreds of other contracts.

Let us send you crusher Bulletin 4-19. We will mail it on receipt of your name and address.

80%



Of all rock crushed on Panama Canal

WORTHINGTON PUMP AND MACHINERY CORPORATION

New York: 115 Broadway Power & Mining Works: Cudahy, Wis.

District Offices: Chicago, El Paso, San Francisco, W. E. Austin Machinery Co., Atlanta, Ga.

M390.8

He laughs at

What good is a truck that can't GET IN ANYWHERE? Not much. IT'S HANDICAPPED.

But a Watson Tractortruck is so FLEXIBLE in operation that it can worm in through narrow, twisting spaces, TURN in its own length without backing—in short, not only get the load exactly where you want it but SAVE TIME in getting there.

Now this is only one of MANY big, unusual, exclusive Tractortruck features.

Do you want to cut down the cost of rubber tires?

Do you want to be able to dump while the truck is MOVING?

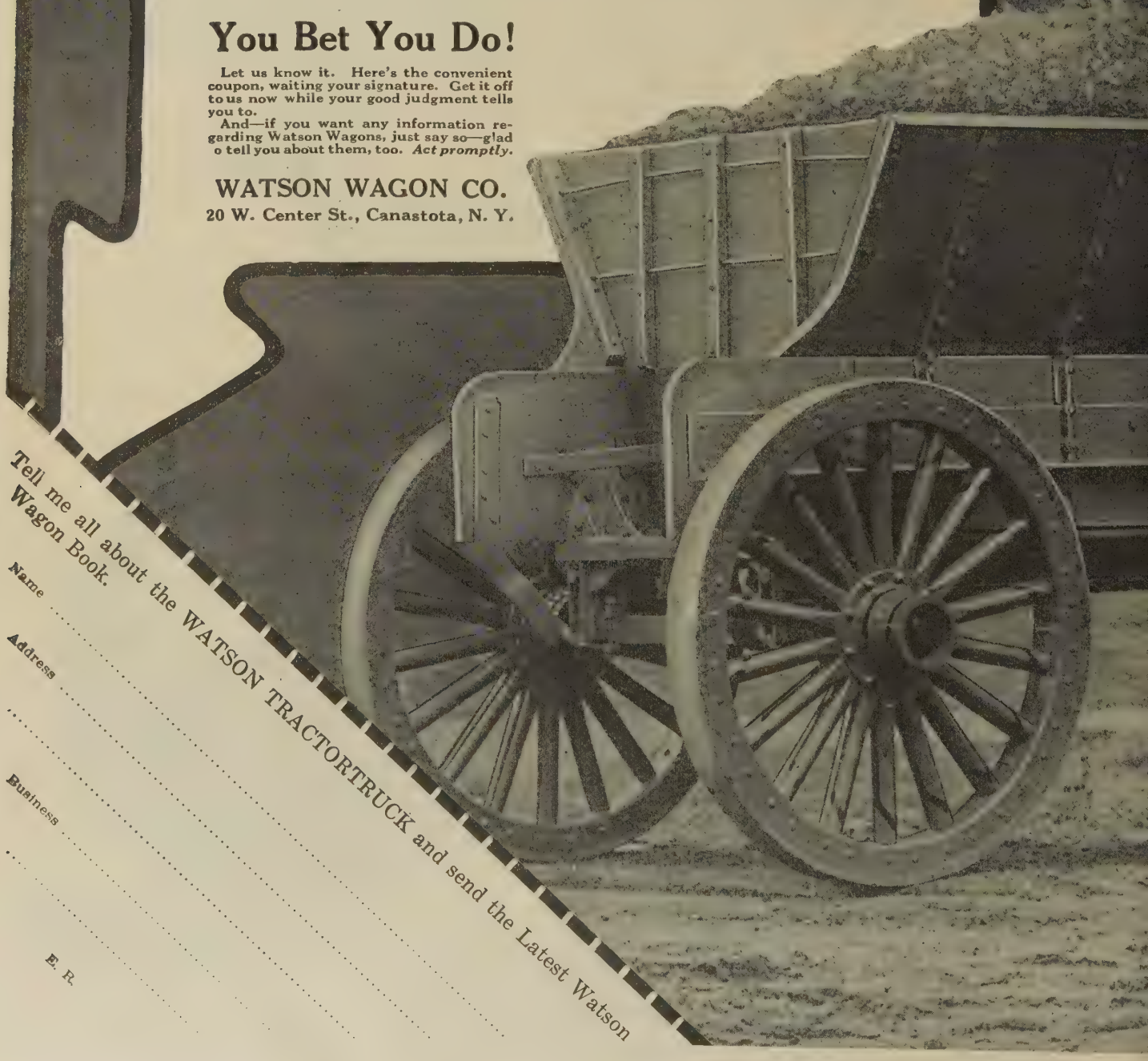
Do you want to eliminate damage to the truck when running empty?

You Bet You Do!

Let us know it. Here's the convenient coupon, waiting your signature. Get it off to us now while your good judgment tells you to.

And—if you want any information regarding Watson Wagons, just say so—glad o tell you about them, too. *Act promptly.*

WATSON WAGON CO.
20 W. Center St., Canastota, N. Y.



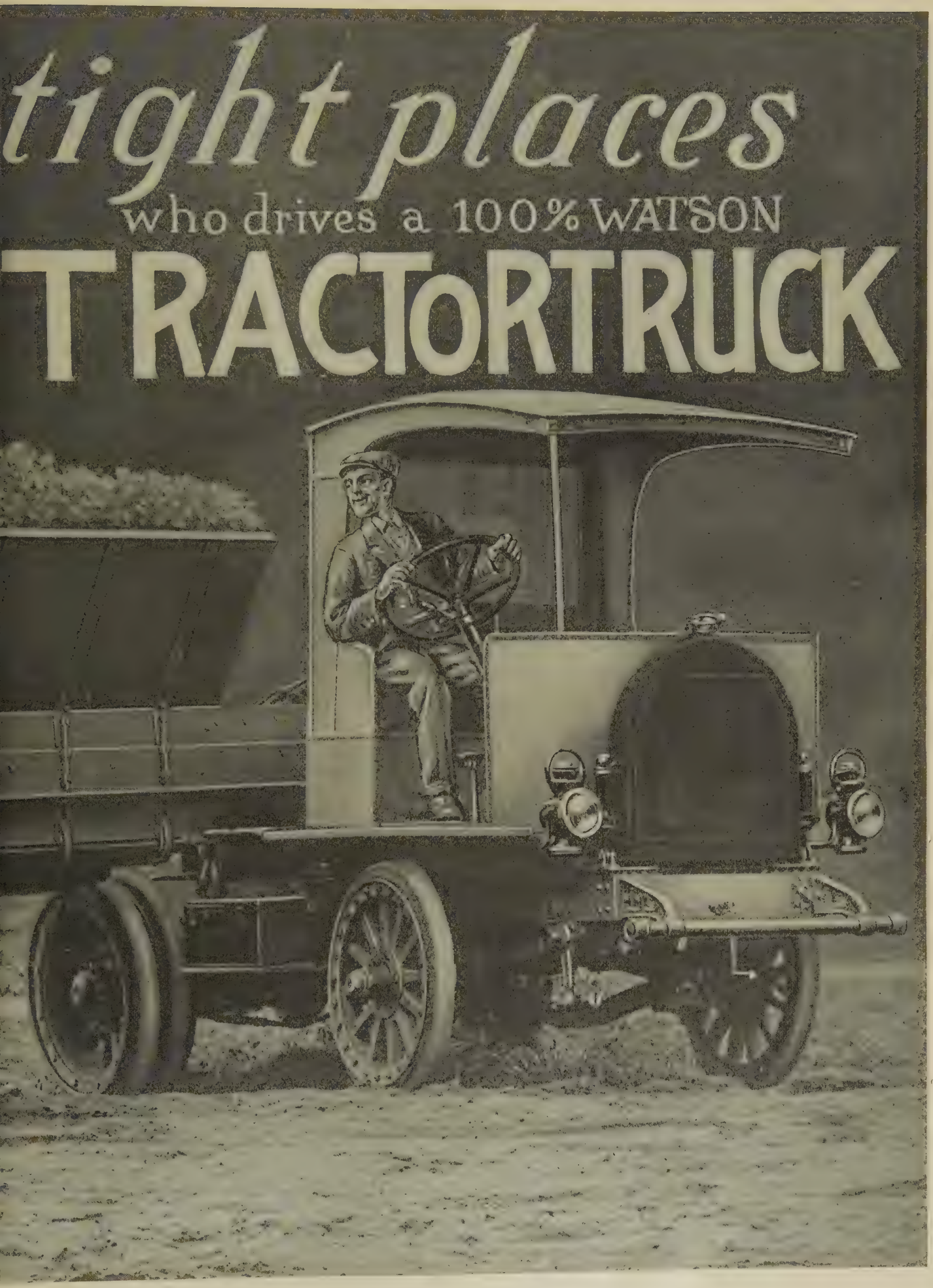
Tell me all about the WATSON TRACTORTRUCK and send the Latest Watson Wagon Book.

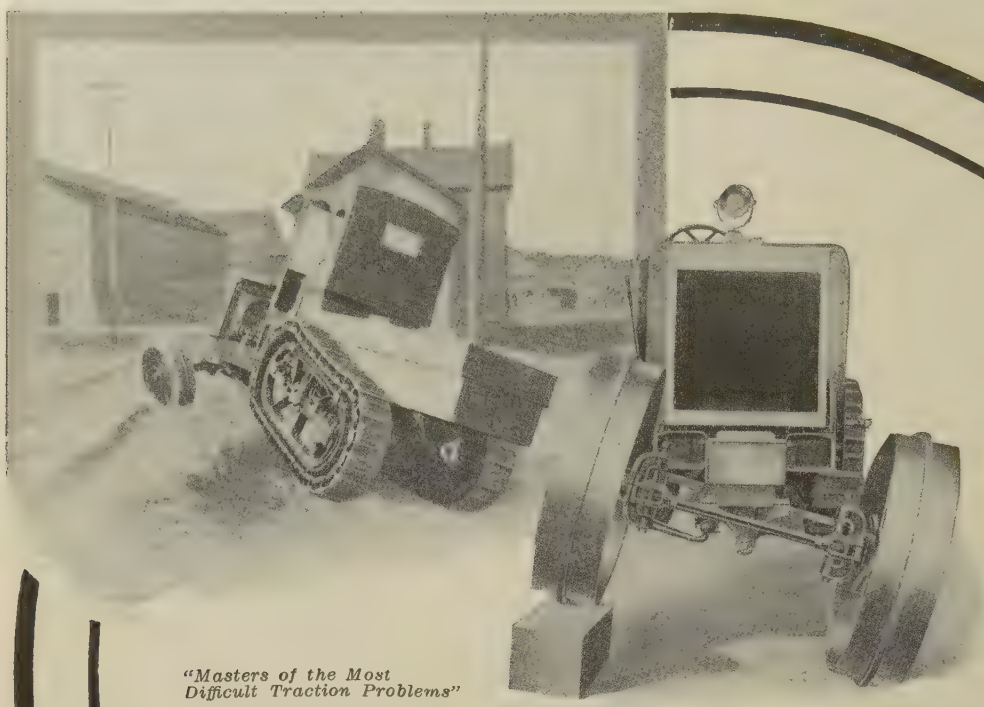
Name .....

Address .....

Business .....

E. R.


tight places
who drives a 100% WATSON
TRACTORTRUCK



"Masters of the Most Difficult Traction Problems"

CENTIPED TRACTOR TRUCKS

"Nothing is impossible." That's the spirit of contractors who own *Centiped Tractor Trucks.* One big contractor pulled a trailing load of 36,000 pounds through the tangled woods and sand hills of Florida with a *Centiped.* Another hauled 10,000 pounds of pig iron up a mountain of loose, drifting sand. Over ditches, in and out of basements, over railroad tracks where there were no crossings, through the stickiest soils and, in fact, so many other seemingly "impossible stunts" have been accomplished by our Tractors, that they have been hailed the *"Conquering Centiped."*

ECONOMY AND POWER

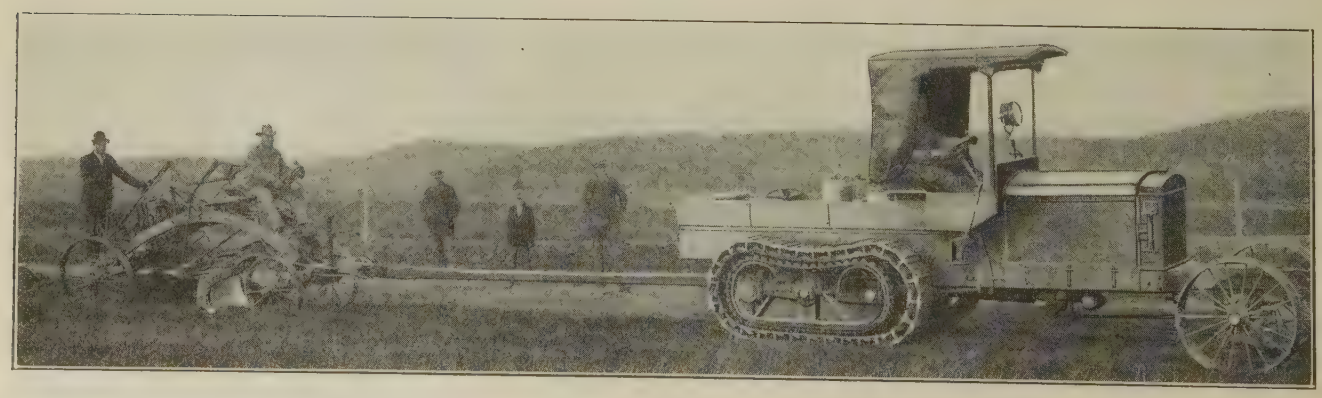
Centiped Tractor Trucks are driven by 60 hp. gasoline engines requiring only two gallons of fuel per hour of full load. Some of our *Centipeds* have been operated more than 3500 miles, and as yet have failed to reveal any material wear and tear. The working parts are well off the gound and are self-cleaning.

Furthermore, Mr. Contractor, we have something interesting to tell you about *TRACTION ENGINE POWER PLUS MOTOR TRUCK FLEXIBILITY.* Send for it today.

Phoenix Mfg. Co.

Eau Claire, Wis.

(Responsible Representatives Wanted)



"Performance Counts"

Mack Trucks

fitted with power winch derrick and draw-bar

Here is a 3½-ton "AC" Mack with a wide field of usefulness to contractors. There's nothing much this truck cannot do in the way of lifting and pulling. The derrick is removable. The winch will load the truck, lower materials into excavations or hoist to upper floors.

Whether you get this 3½-ton truck or a 5½ or 7½-ton heavy duty model—**or one of the lighter Macks**—you get a truck whose construction insures maximum **performance** and minimum overhaul. And—**performance counts.** For details, see Mack Bulletin No. 3.

International Motor Company
West End Ave. and 64th St.
NEW YORK CITY

TRIDENT Prestige Is Founded Upon Facts

Prestige

among water meters—

IN the active competition of the American manufacturing world there is no chance for the unworthy product to achieve enduring success. First dissatisfaction, and finally extinction await the poorer article—and only the one of real excellence attains prestige.

IN the water meter field the demands of consumers are so exacting and the tests of actual service so severe that this general truth applies with particular force. Dust-covered and neglected, subject to all sorts of weather conditions and all varieties of water pressure, the meter must remain accurate, free from the necessity of repairs, durable—faithful for a score of years.

ONLY the best can survive the strain of such a service—only the worthy can achieve success. Prestige attained in such a field must be based on facts!

THE manufacture and sale of more than a million and a half meters gives to the Trident absolute supremacy among water meters. All the prestige rightfully belonging to a product that has outstripped competition in a field where service conditions are of the hardest, belongs to the Trident.

A COMPLETE understanding of the demands that a water meter must satisfy; designing, engineering and manufacturing skill of the highest sort, untiring service to purchasers—and throughout a quarter of a century strict adherence to the ideal that "Trident" must be synonymous with "perfect" —these factors underlie the prestige of the Trident.

AND water works engineers now have Trident Prestige, and the knowledge that that Prestige is founded upon Facts—the Facts of Adaptability, Simplicity, Economy, Accuracy and Durability—to guide them in their selection of water meters.

The Trident

More than a million and a half in service!

NEPTUNE METER COMPANY

50 East 42nd Street, New York

CHICAGO ATLANTA BOSTON LOS ANGELES SAN FRANCISCO PORTLAND CINCINNATI SEATTLE

THERE'S A STORM COMING

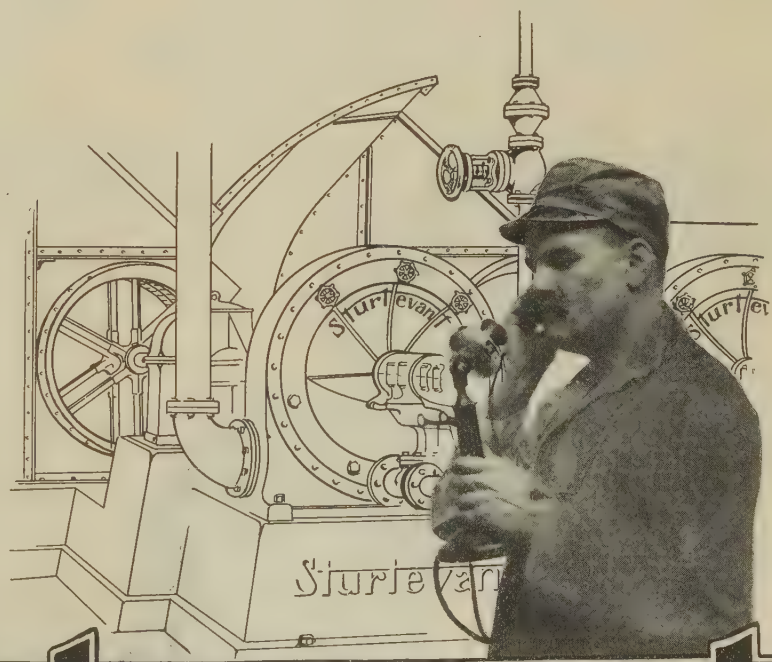
SPEED UP THE FANS FOR 200% RATING

When the sky begins to cloud up it takes only a second to phone down an order to speed up the Sturtevant Fans and it takes only a few minutes for boiler capacity to jump from 150% to 300% rating. There is then abundant steam for the high peak.

For small boilers Sturtevant Turbo-Undergrate Blowers are sufficient. For larger requirements a combination of Sturtevant Forced Draft, Fuel Economizers, and Induced Draft Fans should be installed.

For catalogs, specifications and full information on Sturtevant Fans and other products write to Department G.

B. F. STURTEVANT COMPANY
Hyde Park, Boston - Mass.
And All Principal Cities of the World
Selling Agents for Sanford Riley Stoker Co, Limited; THE RILEY STOKER



Sturtevant

REG·U·S·PAT·OFF·

St. Louis saves 430 lives per 100,000!

Annual deaths from all causes in St. Louis amounted to 1690 per 100,000 of population, before the Big Chain of Rocks Filtration Plant was built.

After filtration and E. B. G. Co. Liquid Chlorine Apparatus was installed, there was a reduction of 430 *deaths per* 100,000 *population per year.* That is, DEATHS FROM ALL CAUSES DECREASED to 1,260 per 100,000, instead of 1,690 per 100,000.

In *typhoid alone,* there was a decrease of 155 deaths per year. And 2,200 fewer cases of typhoid fever illness.

The value of the vital capital saved solely by the *typhoid* prevention is $1,160,000. St. Louis' investment in filtration and chlorination is paying 30% *dividend annually* in typhoid prevention—and the enormous dividend of 600% in *total* saving of vital capital.

We will help you get the funds to make your water SAFE

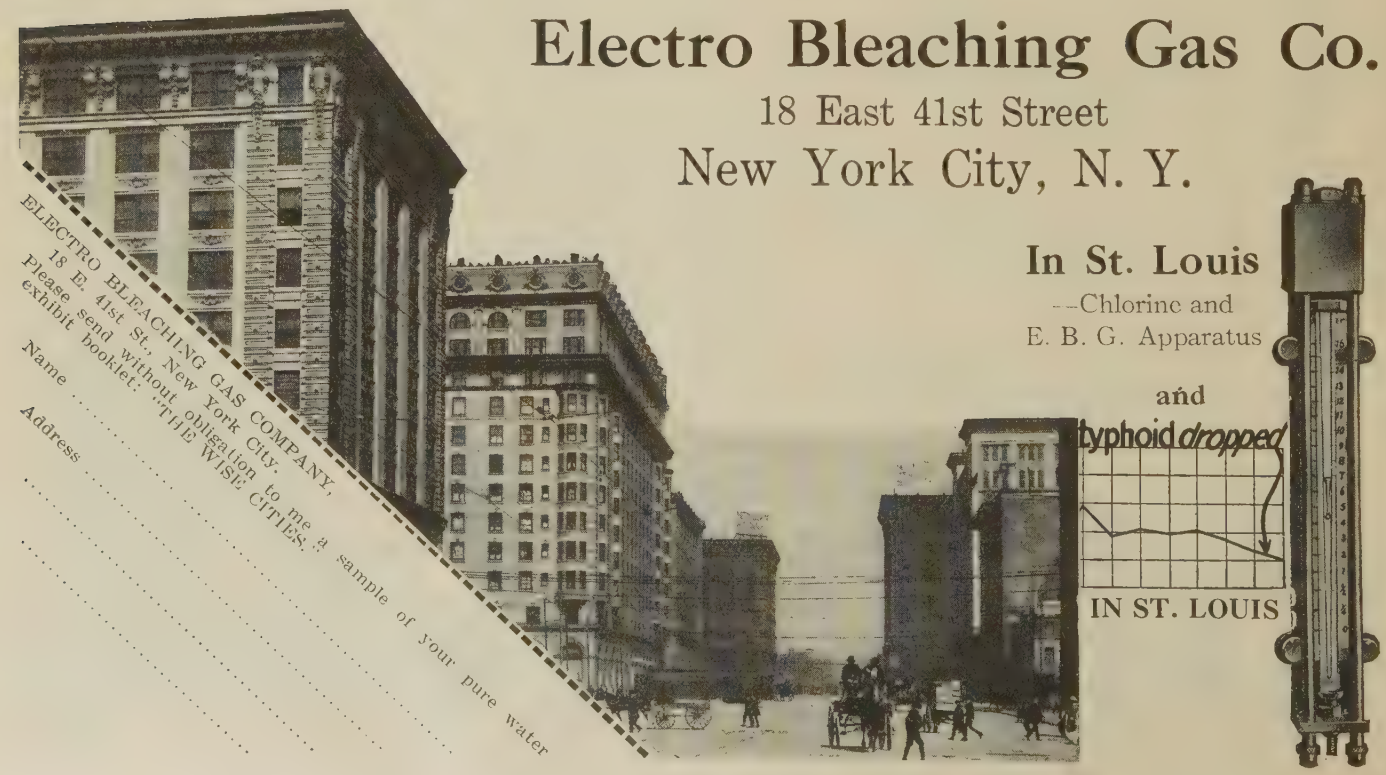
Compared with results, the costs of SAFE WATER are trifling; yet it is sometimes difficult to get the limited funds necessary for this improvement.

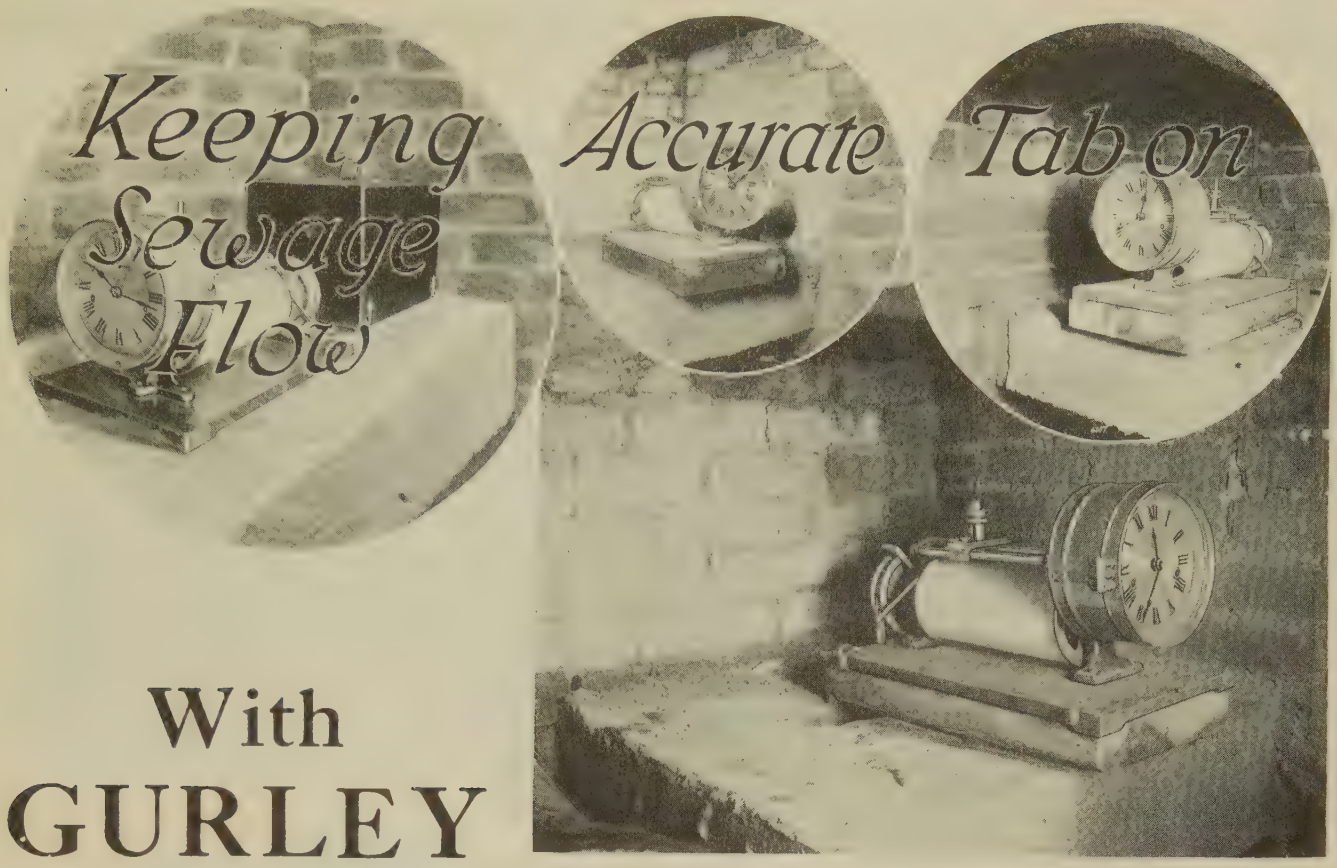
Therefore, to help the waterworks engineer, we have prepared a non-technical exhibit—something the alderman and influential taxpayer will instantly grasp and appreciate. It shows the *dollar value of safe water.*

There is no charge for copies of this valuable exhibit. Fill out the coupon below and we'll send one now for your own inspection. When you have seen it you can write us for additional copies.

Electro Bleaching Gas Co.

18 East 41st Street
New York City, N. Y.





With GURLEY Automatic Water Stage Registers

These pictures illustrate the application of Gurley Water Stage Registers to the measuring of sewage flow.

A joint outlet sewer was constructed by the New Jersey cities and towns of Newark, Summit, South Orange, West Orange, Irvington, Milburn and Vailsburgh. South Orange Township later acquired rights from Milburn to discharge 500,000 gallons of sewage daily into the sewers of that community. It was necessary to keep accurate record of the flow.

Edmund R. Halsey, Township Engineer, drew plans for the recording devices. It was found impracticable to locate weirs in the sewers owing to the large volume of solids.

So a series of special manholes was designed and SIX GURLEY SEVEN-DAY GRAPHIC REGISTERS (No. 634) were installed.

Some of these registers have been in place for a year and a half and "have given highly satisfactory service," to quote the township officials. A man visits them once a week to wind the clock and change the charts. The record is kept in natural scale and the total flow is quickly computed.

There is a complete line of Gurley Automatic Water Stage Registers, for hydro-electric plants, power plants, irrigation systems, water works and other service where an accurate, continuous record of the water stage is essential.

Write for the interesting Bulletin.

W. & L. E. GURLEY, Troy, N. Y.

Branch: Seattle, Wash.

This is the Only Safe Way to Brace Trenches and Excavations

Mr. Contractor! A cave-in means dwindling profits and endangers your employees' lives. Make sure of your trench by bracing it with Dunn All Iron Extensible Trench Braces. This method of bracing is not only the quickest and safest but

Costs Less Than Wooden Struts

A little serious thought will prove this to be a fact. As Dunn Braces are extensible they may be used continuously on varying jobs—timber braces can be used again only in trenches of the same width or smaller.

DUNN Trench Braces

Proof of the economy and safety of Dunn Trench Braces is found in the fact that there are

Over 1,000,000 in Use Today

They are made by the makers of the world famous Barrett Jacks, and are used by large and small contractors both in this country and abroad.

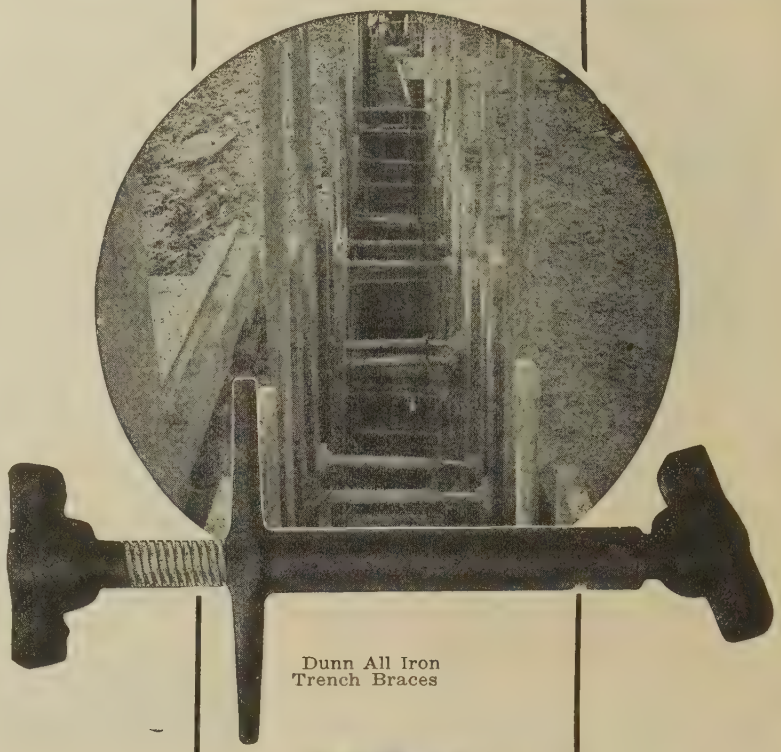
Contractors—Write Now!

Write us today for prices, the name of our nearest distributer, and literature that will prove the safety and economy of Dunn Trench Braces. Immediate shipment guaranteed on orders of any size.

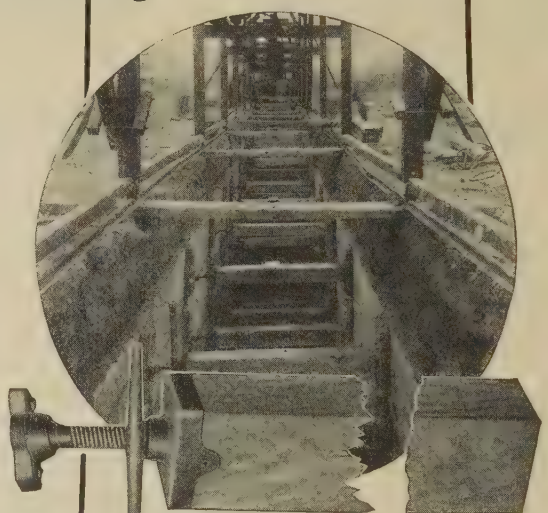
THE DUFF MFG. CO.

(Established 1883) Pittsburgh, Pa.

50 Church St., New York — Peoples Gas Bldg., Chicago — Candler Bldg., Atlanta



Dunn All Iron Trench Braces



Dunn Timber Brace Fittings

Dunn Timber Brace Fittings Used for Vertical Bracing

What Years of Service Tells

When you've worked a shovel for one year—or two—you know *something* about it but not *all.*

By the time you've put a steam shovel through five or six hard seasons you *know* what's in it and what you *can get out of it.*

When you have used one for nearly twenty-five years, you *know it absolutely.*

The owner of a Thew Shovel that had been in continuous operation for over twenty years, recently said, "My shovel is not very handsome, but it does its work every day without any trouble." Another, whose shovel had been in continuous service for eleven years, handled a 75,000-cu. yd. contract and lost but half a day on account of break-downs.

THEW Revolving Shovel

On building construction of this character, work must progress *steadily* and fast. So contractors demand a shovel that they KNOW—a machine with a record for dependable service behind it. Look around any city and see the THEWS at work.

There is a NEW THEW shovel with a combination boom that can handle all of your excavation work from deep ditches to the shallowest cut on street grading. It gives all the advantages of the patented Thew Horizontal Crowding Motion—with the extra long and high reach of the shipper shaft.

Certain fundamental principles of operation account for the fact that Thew Shovels stay out of the repair shop.

Do you know why the Thew does a given work with the least possible effort and a minimum up-keep expense?

Get the Bulletin on this new Thew. It's full of facts for the CONTRACTOR. *The coupon brings it at once.*

The Thew Automatic Shovel Co.

Lorain, Ohio

New York Office: 30 Church Street

The Thew Automatic Shovel Co., Lorain, Ohio:
Send me Bulletin J on the New Thew Type "O" Shovel.

Name.....

Address.....

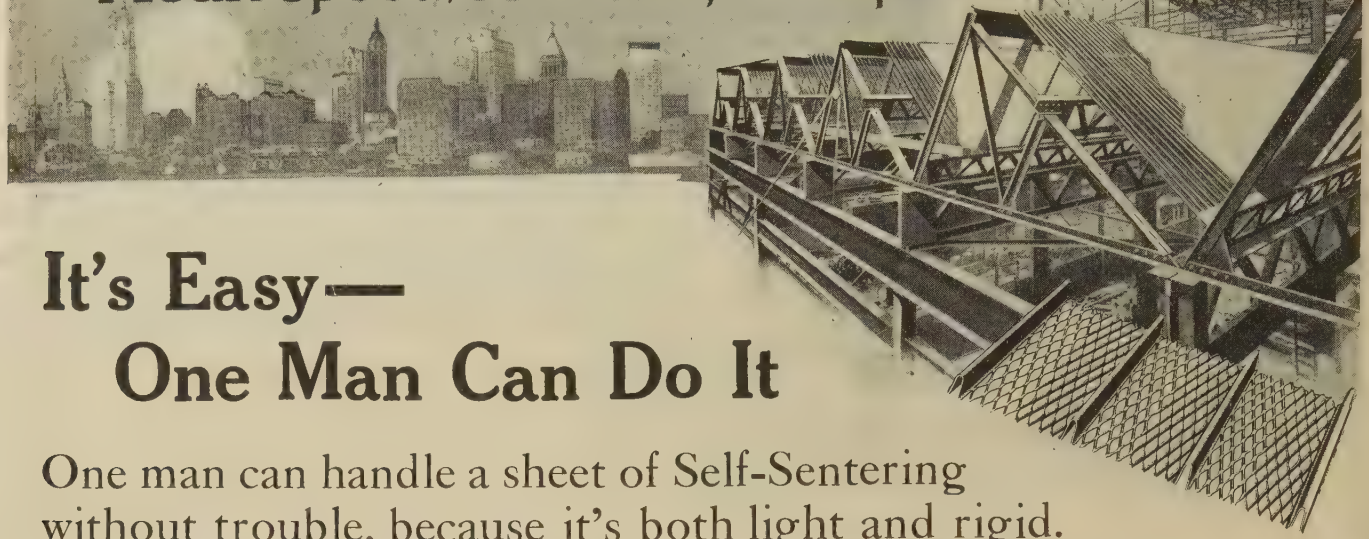
.....

E. R.

GF Building Products

YOUNGSTOWN, OHIO
TRADE MARK REG. U.S. PAT. OFF.

Mean speed, economy and permanence



It's Easy— One Man Can Do It

One man can handle a sheet of Self-Sentering without trouble, because it's both light and rigid.

One man can fasten it in place with GF clips. One man can do the concrete work, because all he has to do is to pour it on and level it off; he doesn't have to build forms or remove them. When the concrete on top is set, he plasters the under side, completely covering and protecting the reinforcement. His finished job is the ideal roof for almost every kind of building—light, fireproof, strong and everlasting.

One man can do this—with a number of men proportioned to the job you'll have it done in record time.

SELF-SENTERING

Use Self-Sentering also for walls and partitions. You need only temporary framing while you plaster one side—then remove the framing, plaster the other side, and you have a strong, fireproof partition, space-saving in its thinness, quickly put up, and economical.

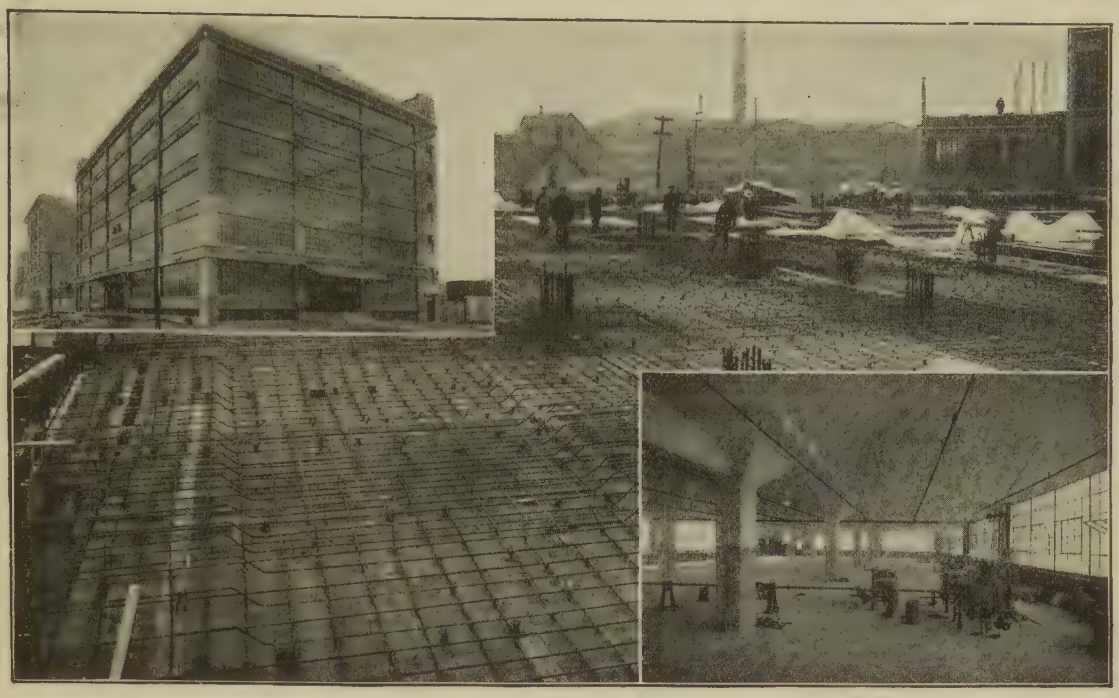
Self-Sentering is equally good for floors, ceilings, silos, tanks, tunnels, etc. It bends easily to curved or irregular shapes; you can use it for all kinds of miscellaneous building purposes, because it is the universal expanded metal; and remember—Self-Sentering, gauge for gauge, has a greater sectional area than any similar material.

The "GF Fireproofing Handbook" gives you complete information about Self-Sentering, in fact the whole line of GF Building Products. We are glad to send it on request.

THE GENERAL FIREPROOFING COMPANY - Youngstown, Ohio

Also Manufacturers of GF Herringbone Rigid Metal Lath, GF Trussit, GF Steel-Tile, GF Waterproofing Materials
Members of Associated Metal Lath Manufacturers

Branch Offices: New York City, Chicago, Philadelphia, Kansas City, Atlanta, Cincinnati, Buffalo, Utica



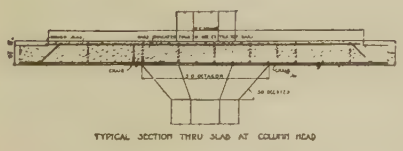
Better Light—Longer Spans—Faster Erection.

When You Discuss Building with Your Architects and Contractors

Ask Them About the Saving of Time and Money in Using

CORR-PLATE FLOORS

An illustrated catalogue has been carefully prepared to explain the many advantages of Corr-Plate Floors in reinforced concrete construction: why it insures greater factors of safety; requires less concrete and less steel for the same strength; makes placement of reinforcement simple and easy; is not involved by infringing patents.



Used in Dodge Bros. Machine Shops, Detroit.

CORR-PLATE-FLOORS

A Special Series of Bulletins Shows

Factory Buildings	Machine Shops
Warehouses	Office Buildings
Hotels	Hospitals

Mention of your interest in connection with immediate work will be appreciated. Please write on business letterhead or enclose your card.

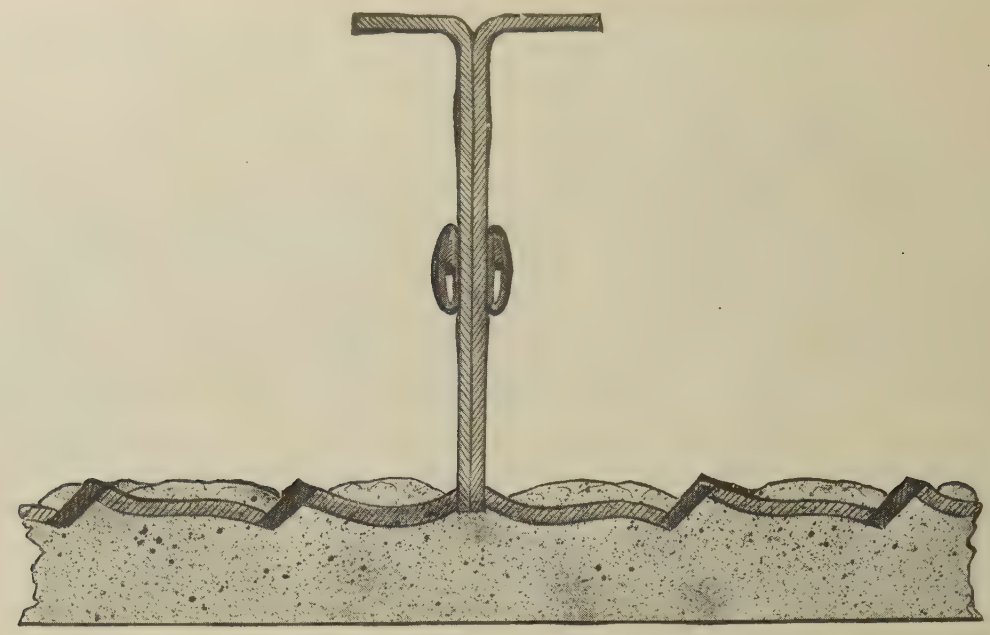
Corrugated Bars

"They can't slip—See the Ribs."

CORRUGATED BAR COMPANY

Buffalo, N. Y.

New York Philadelphia Chicago Detroit
Boston Syracuse St. Louis



You Can Plaster the *Under* Side *Before* You Pour the Concrete

This is Point No. 6

There are 6 other reasons *why*

CHANELATH

is the Best ribbed mesh reinforcing

In roof and floor slab construction there is often a big advantage in being able to protect the floor beneath the slab from drip and leakage.

The T-Rib construction of Chanelath makes it possible to plaster the under side of the fabric because the T-Rib anchors the steel into the concrete firmly, even if the meshes of the fabric are filled with plaster. This is possible in any type of construction where it is not necessary to tamp the concrete.

The obvious advantages of this new type of rib reinforcing are bound to appeal to you. If you are not thoroughly familiar with the other six points, let us send you "Chanelath Hand Book."

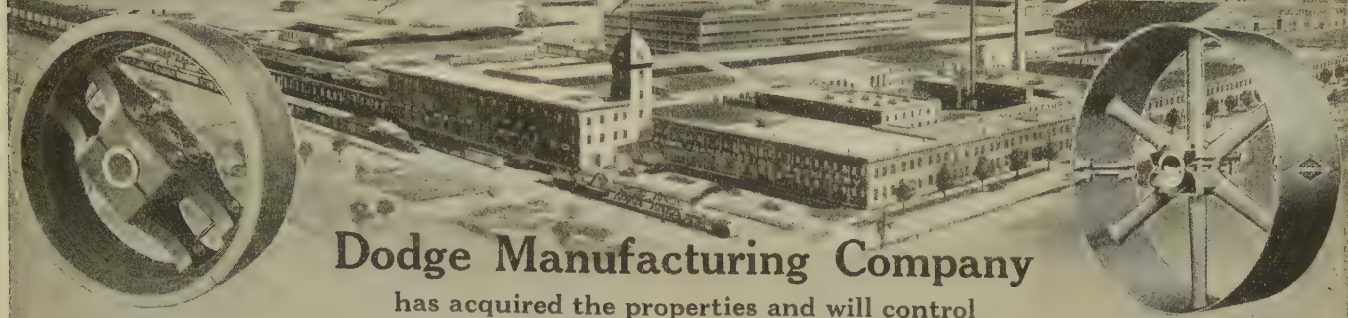
Ask for booklet 4

North Western Expanded Metal Lath Co.

Manufacturers all Types of Expanded Metal

900 Old Colony Bldg., Chicago, Ill.

Mishawaka Plant, Mishawaka, Ind.
Daily Capacity
1,500 Wood Pulleys
1,000 Iron Pulleys



INDEPENDENCE
Wood Split Type

STANDARD
Iron Split Type

Dodge Manufacturing Company

has acquired the properties and will control the manufacture of the entire products of *Oneida Steel Pulley Company, and Keystone Steel Pulley Company;*

the succeeding operating organization will be known as

Dodge Steel Pulley Corporation of Oneida, N.Y.

In the future the sales and distribution of

DODGE ONEIDA AND KEYSTONE

WOOD AND IRON, SOLID AND SPLIT PULLEYS — STEEL SPLIT PULLEYS

will be under the exclusive supervision and control of

Dodge Sales and Engineering Company of Mishawaka, Ind.

through its many branch warehouses, district organizations and their accredited Sales Agencies throughout the world.

Thirty-five years ago, Wallace H. Dodge conceived the idea of a split pulley made of hardwood, embodying the fundamental principles of compression shaft fastening, and of an interchangeable bushing system.

In this original Dodge idea was the basis for a new commercial and economic development, which is now recognized as one of the most important branches of industrial engineering.

The Dodge Bushing System of 1882 remains unchanged in 1917; through its interchangeability, a range of 108,000 pulleys with fixed bores, faces and diameters may be covered by an extreme total of 2,700 pulleys of standardized bores and 40 bushings; this is the Dodge idea from the commercial viewpoint.

From the economic viewpoint, the factory owner now buys one pulley which may be fitted to 40 shafts instead of one, at the slight cost of a new bushing; in consequence, a pulley purchase of today is regarded as a permanent asset.

Thus, as early as 1882, Wallace H. Dodge, founder of Dodge Manufacturing Company, was acknowledged the inventor and patentee of those principles which today govern the manufacture of all stock pulleys.

In 1900, the Standard Cast Iron Split Pulley, using similar metallic interchangeable bushings, was added to the Dodge line by purchase, for even then the split bushed pulley was being copied in other materials than the original wood type. The Standard Cast Iron Split Pulley became a part of the Dodge line full-born; a product that had profited by and attained perfection through the pioneer invention of Mr. Dodge and the experience of others.

And now, in 1917, we announce the further addition of the steel type of split pulley as the final justification of the Dodge slogan, "A Perfect Pulley for Every Place."

Our final satisfaction in this announcement is two-fold; *first,* in being the only pulley manufacturer in the entire world who may offer, without prejudice, the proper type of pulley for the work in hand; and *second,* in the knowledge that we are furnishing, in every case, the highest development of pulley construction, whether of wood, iron or steel.

All are products worthy of the name "DODGE;" by the performance of each we are ready to stand or fall, according to our recommendation for their use.

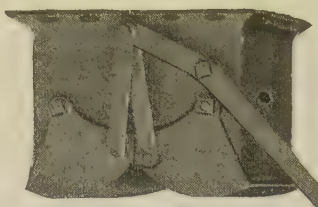
Thus our ability to render true service, unprejudiced service, to industrial plants; to their superintendents, master mechanics and workmen; to dealers in power transmission equipment; to power users the world over, is such as to justify you in specifying Dodge Products for all power transmission requirements.

ONEIDA
Steel Split Type

KEYSTONE
Steel Split Type

Oneida Plant of Dodge Steel Pulley Corporation. Daily Capacity, 1,500 Steel Split Pulleys.

HUNT



Cut-Off Valves

A type for every requirement

Extra strong jaws that will break up hard and lumpy materials —the simple, but powerful mechanism that always ensures positive working—and the convenience of operation from any point, results in a gate that will withstand the most strenuous requirements of this class of mechanism.

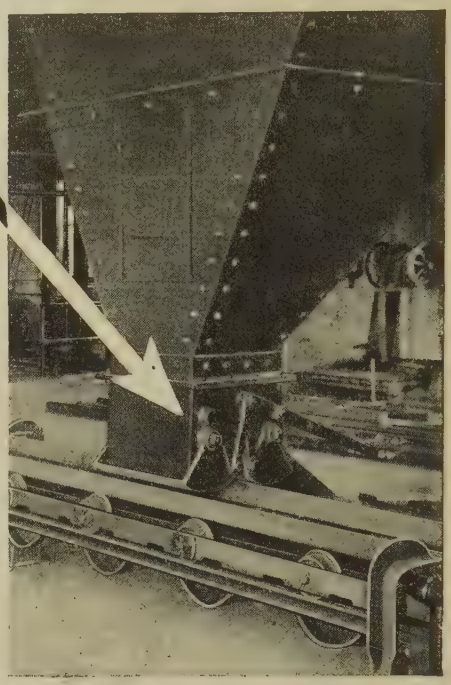
A cut-off valve should be properly designed to your service to do the work your service demands. Practically every requirement can be met with one of our standard make valves and we stand ready to advise you. Send us *your* requirements and let us specify valve. Catalog No. P 15-3? Write.

C.W. HUNT COMPANY, Inc.

West New Brighton, N. Y., U. S. A.

61 Broadway, New York City Fisher Building, Chicago
Munsey Building, Washington

Here's a Hunt Duplex Gate Controlling Ashes to Hunt Pivoted Bucket Conveyor



NEWTON

Never Slip

Form Clamps

For straight walls,
spandrels, soffits
and columns

See next week's advertisement
Write for particulars

NEWTON MFG. CO.

810 Walnut St. Kansas City, Mo.

Tell Your Wants to Record Readers

Watch the many announcements that appear from week to week on the

"For Sale" and "Want" Pages

Some of the offerings are real bargains and may be just what you need.

Some of the needs may be for just what you can supply.

Whenever you want to buy, sell, rent or exchange, use the Searchlight Section of the Engineering Record.

UNDISPLAYED CARDS FOR POSITIONS COST 60 CENTS FOR 20 WORDS

UNDISPLAYED MACHINERY CARDS COST $1.50 FOR 30 WORDS OR LESS

ENGINEERING RECORD

239 West 39th Street, New York

CHICAGO CLEVELAND PHILADELPHIA
SAN FRANCISCO LONDON

YOUR NEXT JOB

—we'll help you figure it down close

The **BAKER** MANEY Four Wheel SCRAPER
(The Self-Loading Dump Wagon)

If you are using "two-wheelers" on hauls between 150 and 2000 feet, or big excavators on *all* jobs, we think we can show you how to make 25% to 50% more.

Before you bid on another job, let us show you what you can do it for with Baker-Maney 4-Wheel Scrapers.

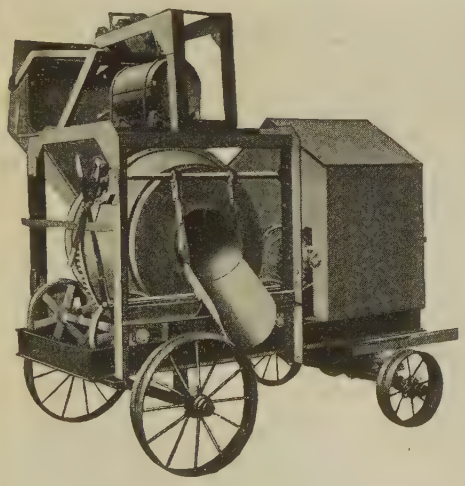
It will be valuable to you to have our figures on what it should cost with an outfit of Baker-Maney Scrapers. Whether you purchase or not, surely the data will be of service to you.

When writing, please give us the nature of the soil—length of haul—number of cubic yards to be moved—per cent. of grade—in fact, give us all the details you can.

Write for Catalog of the Baker-Maney Scraper. It is an interesting book for contractors.

THE BAKER MFG. CO.
500 Stanford Ave. - Springfield, Ill.

New York—Baker-Barron, Inc., 221 W. Broadway
Denver—H. W. Moore & Co., 18th & Wazee Streets
Los Angeles—D.G.Bevis & Co., 223 Marsh-Strong Bldg.



Wouldn't trade it for a new one

CENTRAL ILLINOIS LIGHT COMPANY
Peoria, Ill.

Feb. 5, 1917.
Eureka Machine Co.,
Lansing, Mich.
Gentlemen:
Note enclosed pictures taken on our job just completed. The machine is still going it and wouldn't trade it for a new one. Worked from Nov. 20 to this date steady every day.
(Signed)
J. E. COOK

"Quality Wins"

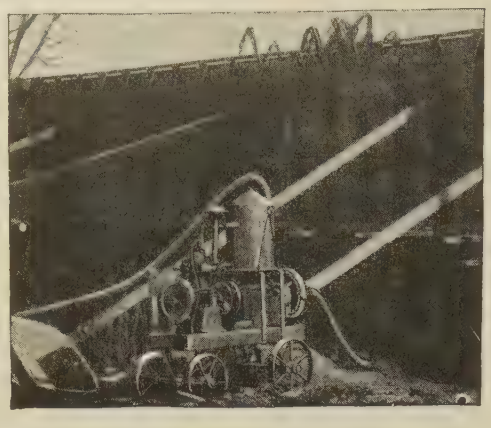
EUREKA No. 10

There are many more EUREKAS working throughout the country that are *still going it*—and have been for a long time—and their users aren't ready to trade for new ones either. This is just another reminder of Eureka Service—that continuous service you receive when you buy a *Quality* Equipment.

Let us tell you more about the Eureka—write for our descriptive circular — obey that impulse — do it now

EUREKA working at 16 degrees below zero

EUREKA MACHINE CO., 105 Handy St., Lansing, Mich.



"AMERICAN" Contractors' pump used on bridge work near Maple Park, Ill., by W. E. Cummings, Contractor, Geneva, Ill.

"American" Contractors' Pumps Are Always On The Job

Make any kind of a comparison you wish, the ability to get into action when it arrives on the job, the time required to pump out a trench, pumping muddy, sandy or gritty water, any condition to 25 per cent. solids; durability, reliability or economy, the "American" Contractors' Pump is ready to compare performance with any other pump used by the contractor.

The "American" Contractors' Pump is not a makeshift, intermittent, flickering stream pump, but the highest development of the centrifugal pump, having bearings entirely removed from the volute chamber and impossible for grit to get into them. It is direct connected to a high speed gasoline engine mounted on a heavy all-steel truck, ready to commence work in any location in a minute's time after it arrives on the job.

The design and construction of this pump are precisely the same as our highest duty pumps designed for handling gritty water, and the pump is backed by the most rigid guaranty ever placed on a pump for this purpose by the manufacturers.

American Contractors' Pumps

mounted on all-steel trucks with gasoline engine, mounted on skids with gasoline engine or mounted on cast base with pulley for belt power, in a full line of sizes, are carried in stock for *immediate shipment.*

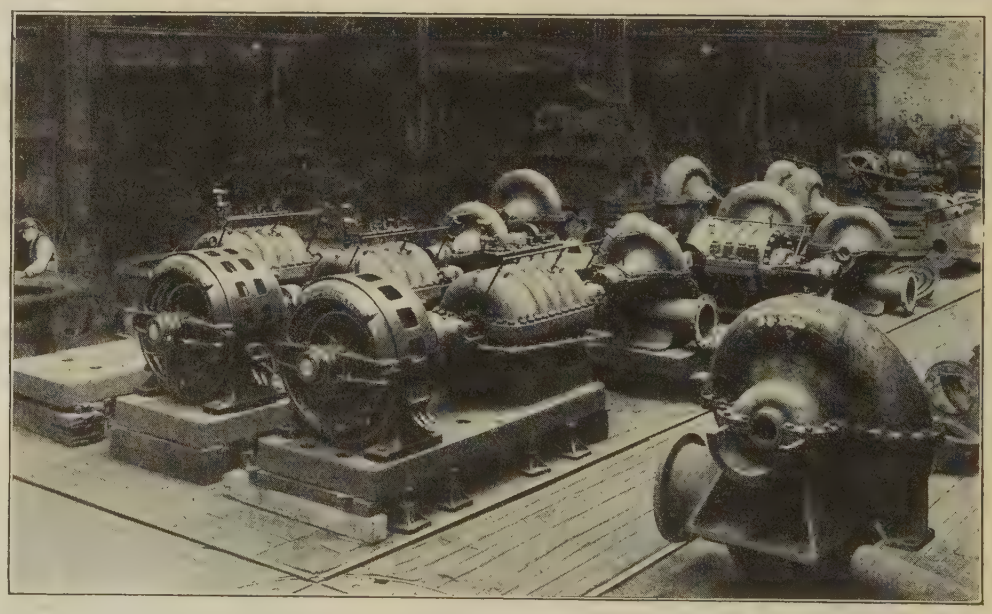
If you are interested in Contractors' Pumps of REAL quality, get our catalog and a copy of our guaranty.

The American Well Works

General Office and Works, Aurora, Ill.

Chicago Office, First National Bank Building

These Are Some Types of Centrifugal Pumps Which We Build



The Multi Stage Pumps in front at the left are for mine service—and the Single Stage Pump at the right is for irrigating—further back there is a large Multi Stage Boiler Feed Pump and some Standard Single Stage Pumps for general service.

We would like to send you our bulletin No. 1632 A describing these and other types as it contains valuable information for all prospective users of centrifugal pumps.

ALLIS-CHALMERS MANUFACTURING COMPANY

MILWAUKEE WISCONSIN

LIDGERWOOD HOISTS

With the high cost of labor and material the contractor must get the maximum work out of his equipment.

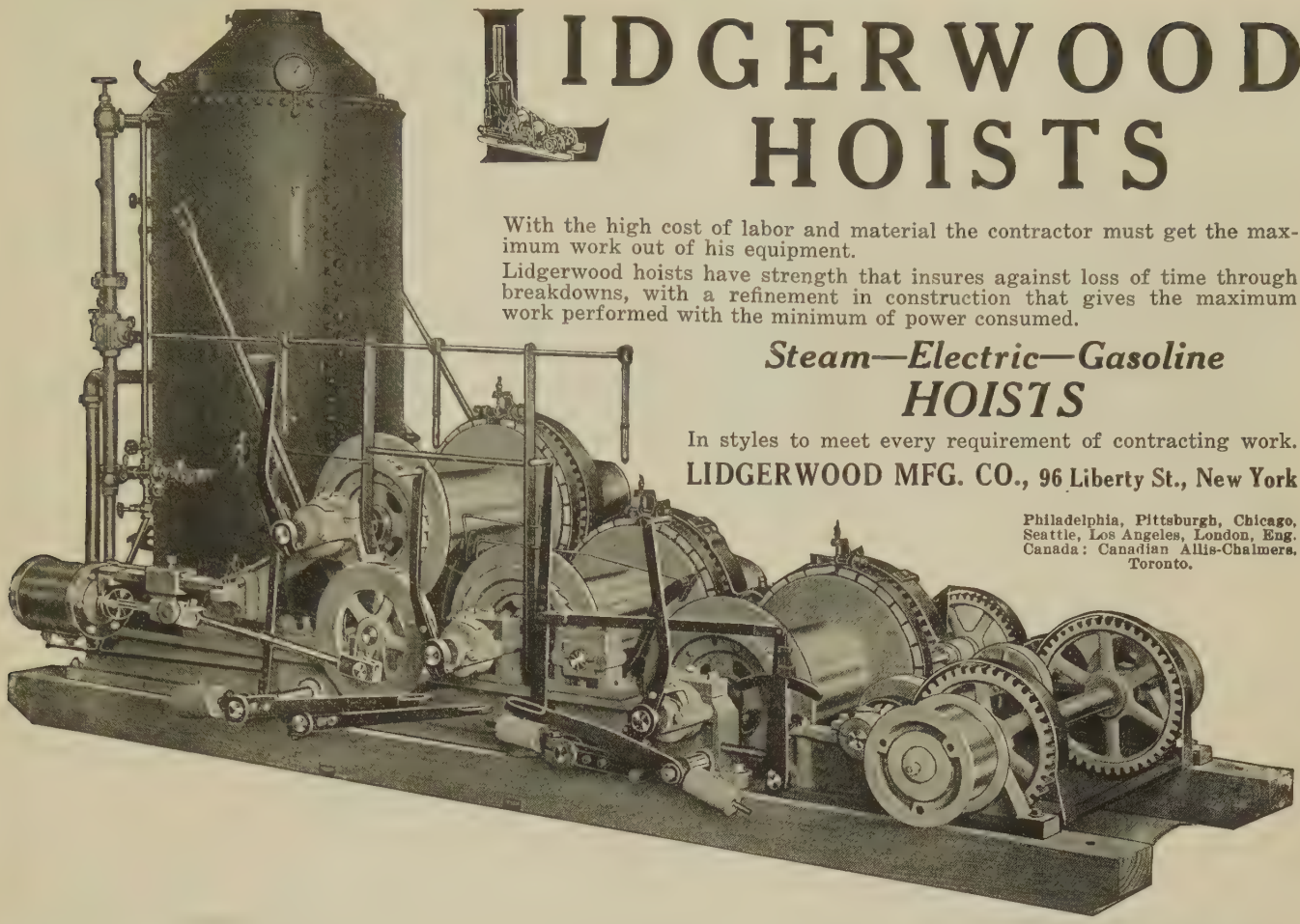
Lidgerwood hoists have strength that insures against loss of time through breakdowns, with a refinement in construction that gives the maximum work performed with the minimum of power consumed.

Steam—Electric—Gasoline
HOISTS

In styles to meet every requirement of contracting work.

LIDGERWOOD MFG. CO., 96 Liberty St., New York

Philadelphia, Pittsburgh, Chicago, Seattle, Los Angeles, London, Eng. Canada: Canadian Allis-Chalmers, Toronto.



Most BUCKETS Look Alike, But There Is a Difference—

BROWNING BUCKETS

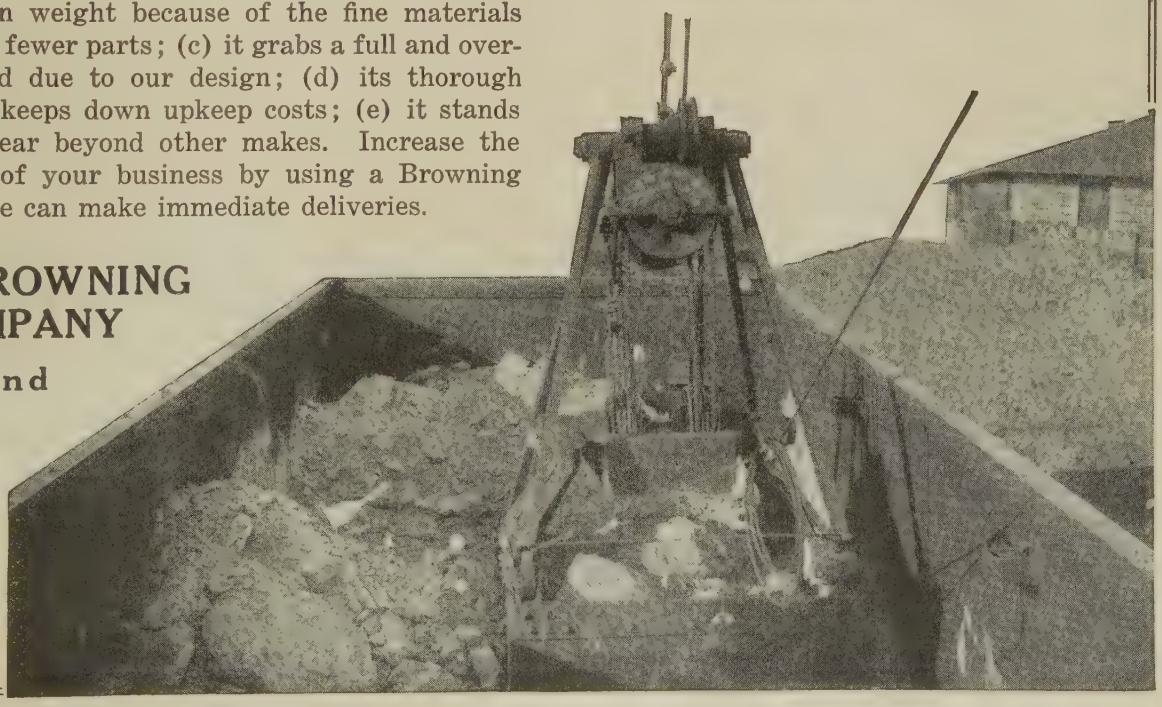
IN fact, there are many points of difference, but they all merge into one in the end—the difference in **profits** to you. The Browning Bucket will be profitable to you because (a) it is swift in action; (b) light in weight because of the fine materials used, hence fewer parts; (c) it grabs a full and overflowing load due to our design; (d) its thorough lubrication keeps down upkeep costs; (e) it stands wear and tear beyond other makes. Increase the profit side of your business by using a Browning Bucket. We can make immediate deliveries.

THE BROWNING COMPANY

Cleveland Ohio

Sales Offices

New York
Philadelphia
Chicago
San Francisco



Steel for Service

The following is an extract from a letter of Mr. H. L. Bickenback, Engineer, Clark-Missoula Power Company:—

"The river bed contained some large boulders and when one of these was encountered, we would set in several piles without driving them. We would then drive several piles and return to the ones that had been set on the boulders and by careful driving and moving from one pile to another we were able to break through the boulders and get good penetration."

United States Steel Sheet Piling

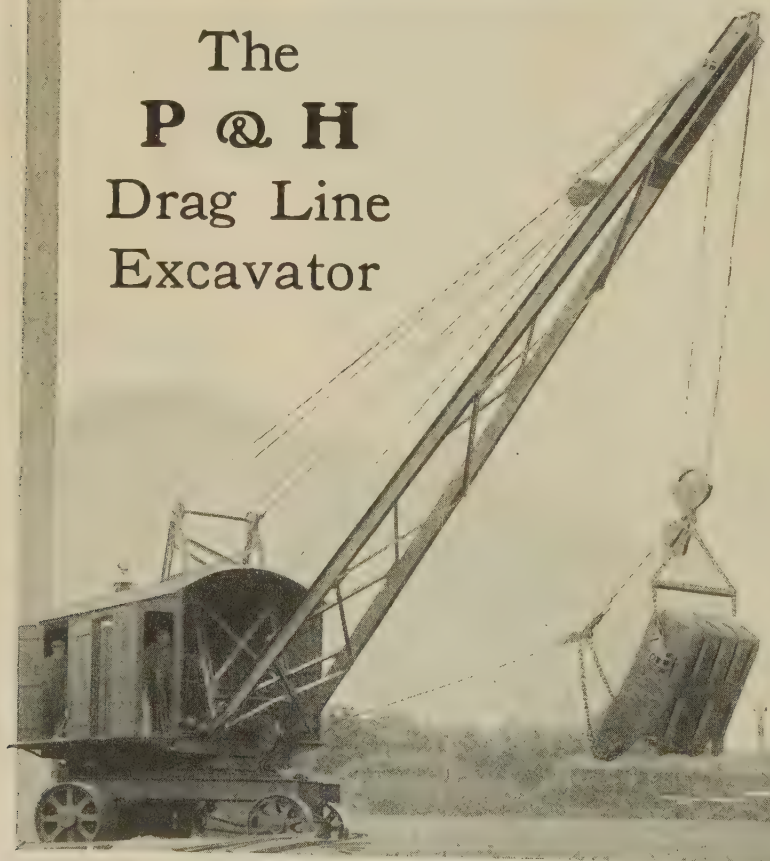
was used on this job. It can always be depended upon in difficult installations.

Carnegie Steel Company

General Offices, Pittsburgh, Pa.

796

The
P & H
Drag Line
Excavator



BUILT in sizes that will swing boom 40′ to 125′ in length.

Buckets from $\frac{3}{4}$ yd. to $4\frac{1}{2}$ yard.

Operated by steam, electricity or internal combustion engine power.

Propelled on power traction wheels, corduroys, skids and rollers or trucks.

Write for Information
Drag Line Dept.

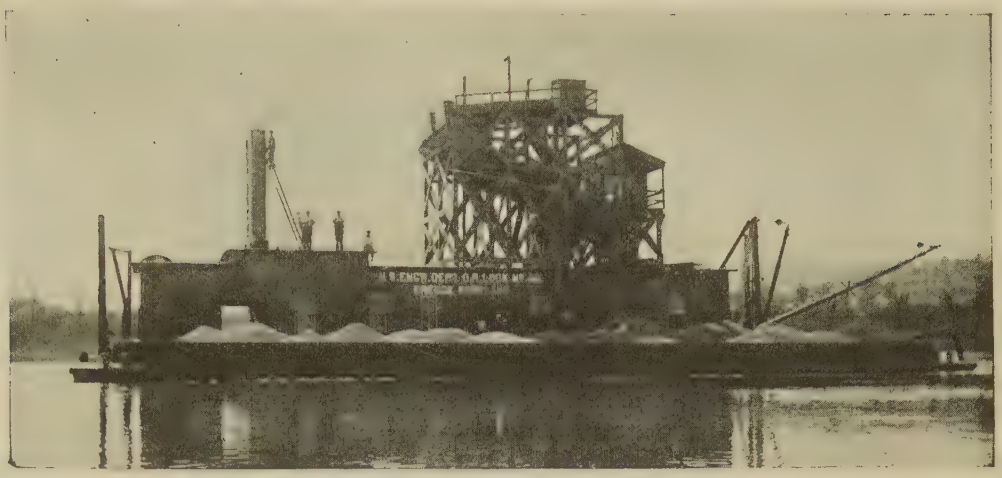
Pawling & Harnischfeger Co.
Milwaukee, Wis.
U. S. A.

Manufacturers of Back-Fillers, Power-Tampers, Trench Excavators and Traveling Cranes

DULL PLANTS

on Land
or Water

Insure Economy



In the largest and the smallest plants which we have designed for the Washing of Sand and Gravel you will find the same *high efficiency*. Whether you want a plant for operation on land or on water it will pay you to investigate.

DULL ENGINEERING Sand and Gravel Washing Plants

The fact that about 75% of all the sand gravel washing plants installed in the country in the last six years have been designed by our engineers is significant. That we get many Dull Plant and Equipment re-orders from our customers means that they live up to our claims for them. Our free booklets *"Plants For Washing Sand and Gravel"* is filled with valuable information for you. Write for it.

THE RAYMOND W. DULL CO.

1918 Conway Building, Chicago, Ill.

Plymouth Rope Wears Longest

9,000 barrels of cement
20,000 barrels of water
50 wagon loads of sand

These figures tell in a nutshell the importance of strong, durable Manila rope for gravity chute falls—they indicate the approximate amount of material to be "spouted" on this typical, eight-story, industrial plant job.

The best way to avoid costly breakage and replacement of rope on any construction work is to start with the best rope in the first place.

PLYMOUTH CORDAGE COMPANY
North Plymouth, Mass. Welland, Can.
Distributors in All Principal Cities

"MARITIMO"

Acid Resisting — Maritimo Coating — Non-Inflammable

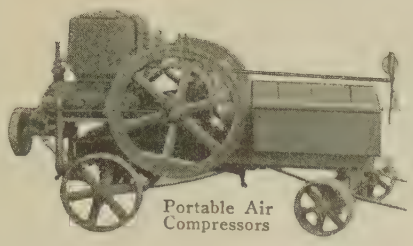
IMPERVIOUS COATING

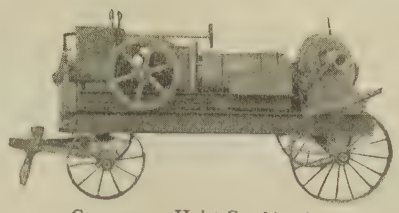
For

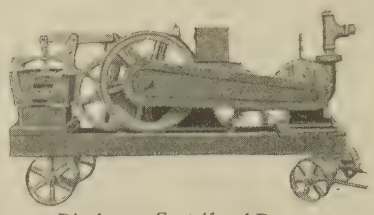
Steel Pipe Lines — Acid Tanks — Steel Piling
Stand Pipes — Gate Locks — Service Water Tanks

Improved Method of Application Applied Cold

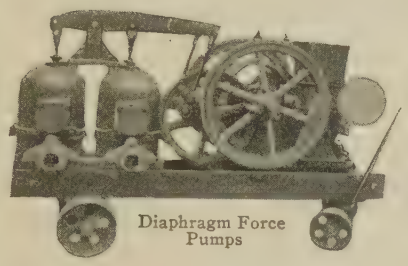
Maritimo Coating Corporation, Grand Central Terminal, New York City


Portable Air Compressors


Compressor Hoist Combination


Diaphragm-Centrifugal Pumps

Gasoline and Oil Engines


Diaphragm Force Pumps

SCHRAMM

"—the people who make that compressor—"

can furnish you with these units—and many others.

Simplify your buying problem—write us—or visit our show rooms.

CHRIS. D. SCHRAMM & SON

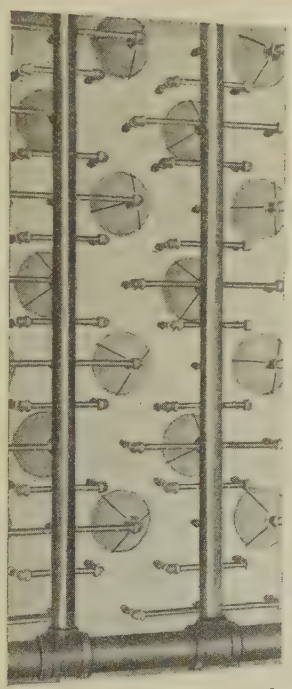
New York Show Room: 140 West Street
Philadelphia Show Room: 310 North Fourth Street

6 FEATURES of Schramm Portable Compressors

(1) Low first cost.
(2) Low operating cost.
(3) Reduction of power losses.
(4) Stays rigid during operation.
(5) Low center of gravity.
(6) Can be used for straight power purposes.

Spraying

is our field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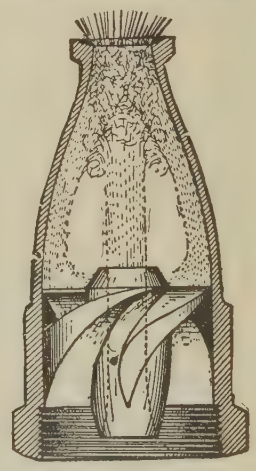
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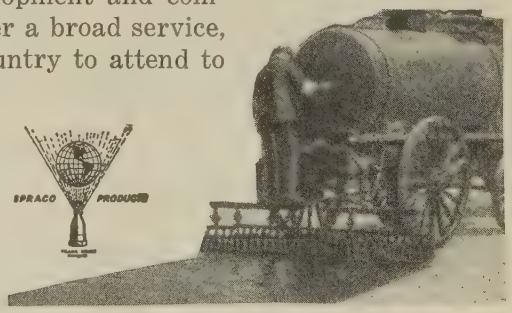
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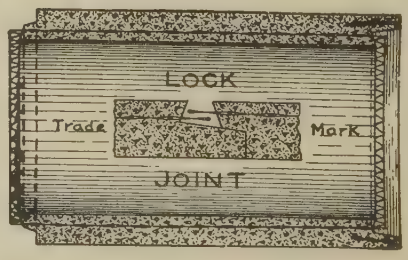

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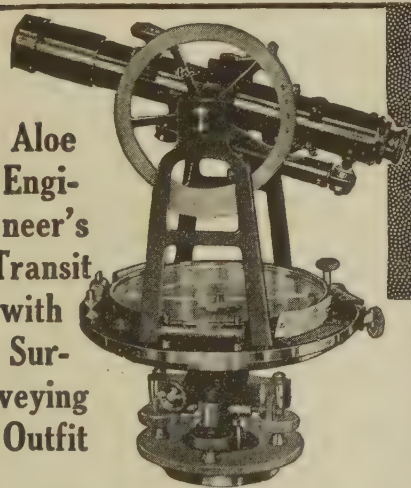

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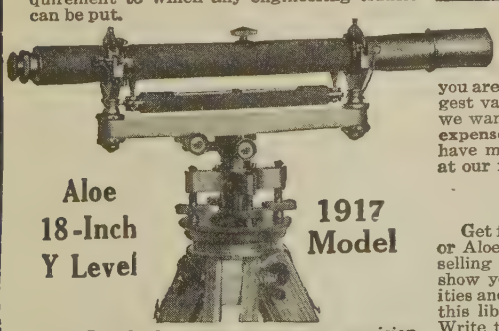

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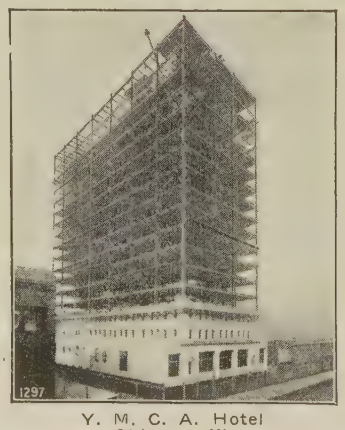

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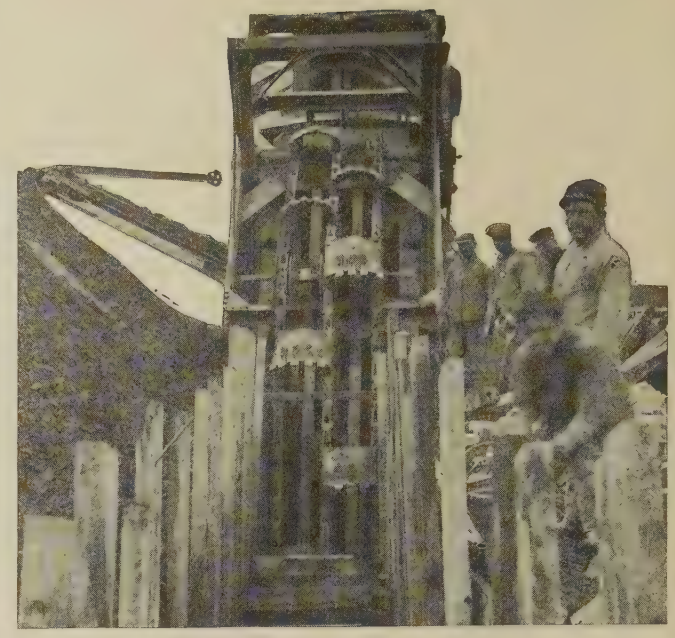

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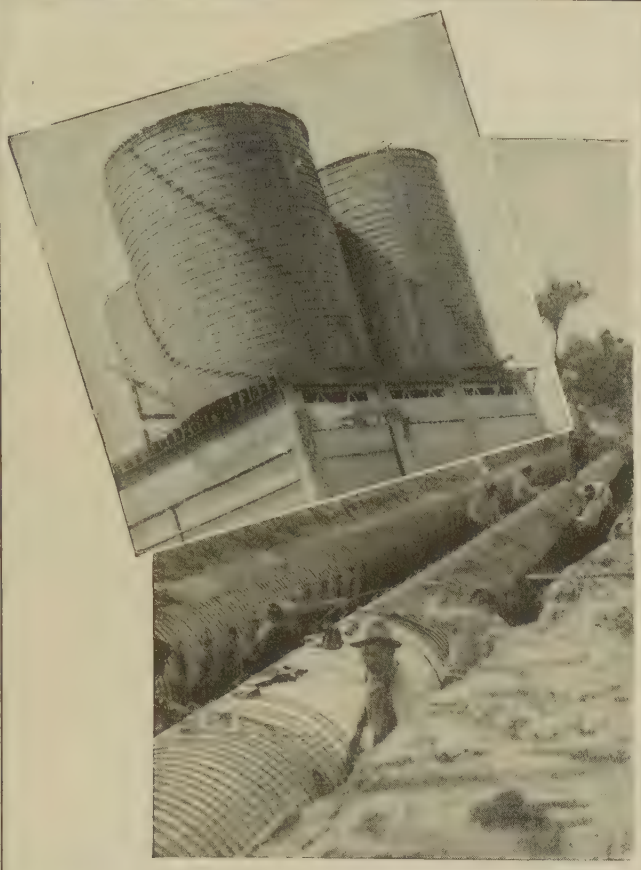

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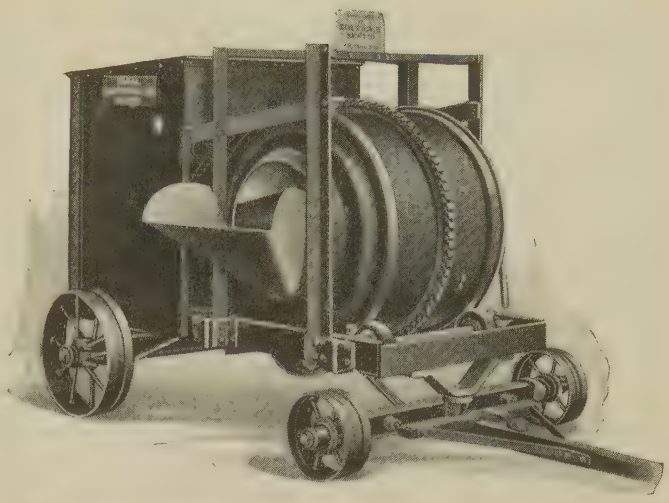

Where the Work is Done

Probably every bit of concrete that you place goes through the drum of your mixer. How fast and thoroughly this work is done depends upon the arrangement of the paddles or blades inside of the drum.

The illustration below shows the arrangement of the blades and buckets in

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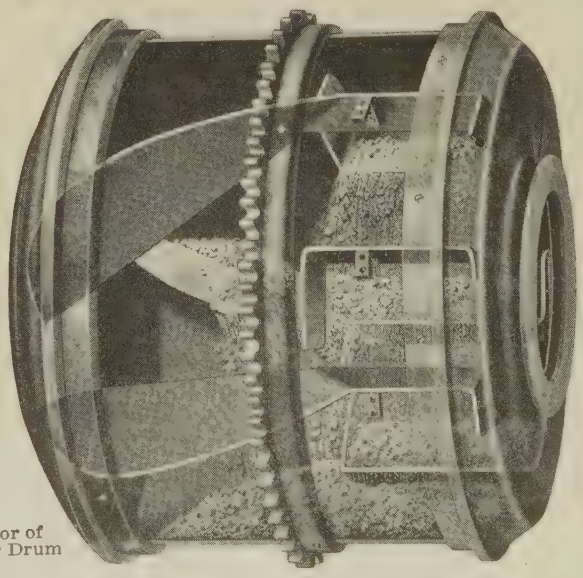
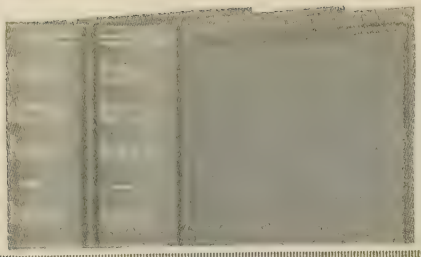


Interior of Mixer Drum



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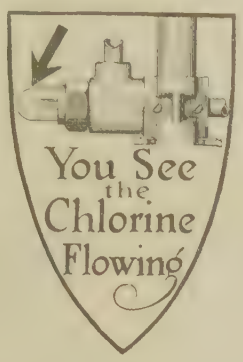

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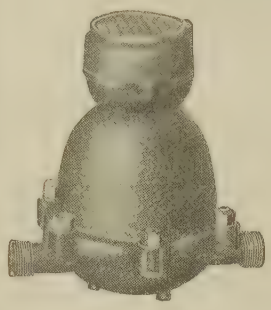

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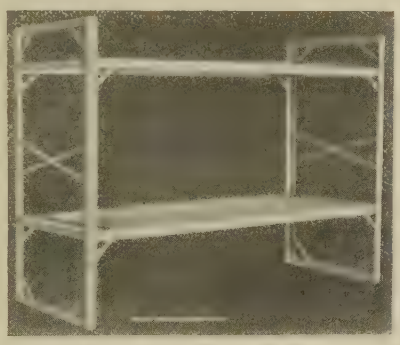

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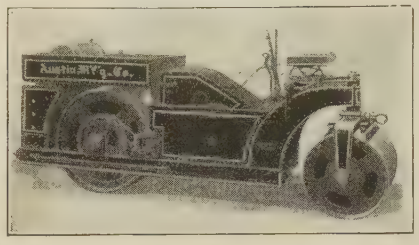

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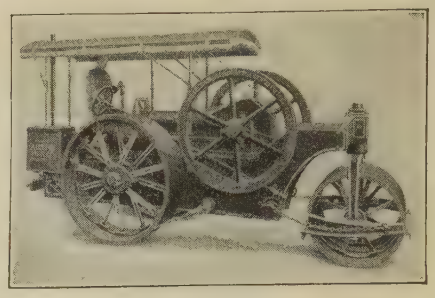

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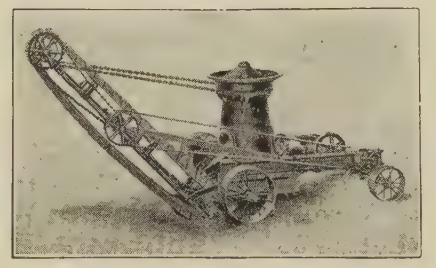

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The Austin Mfg. Co.
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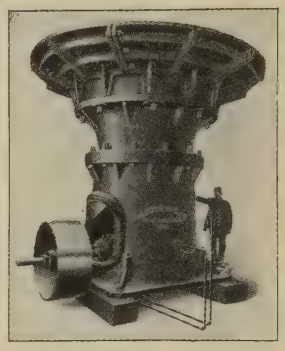
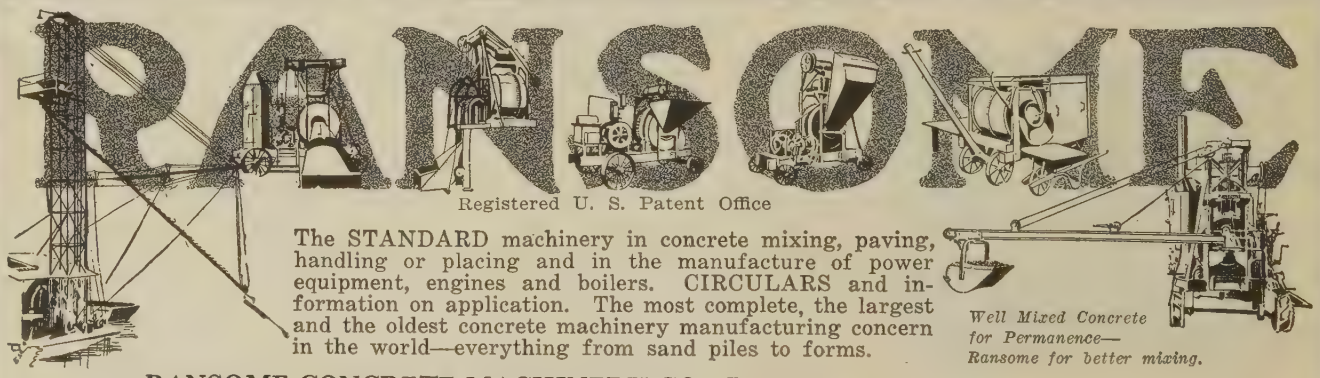


Made in Eight Sizes
50 to 5000 Tons a Day



Registered U. S. Patent Office

The STANDARD machinery in concrete mixing, paving, handling or placing and in the manufacture of power equipment, engines and boilers. CIRCULARS and information on application. The most complete, the largest and the oldest concrete machinery manufacturing concern in the world—everything from sand piles to forms.

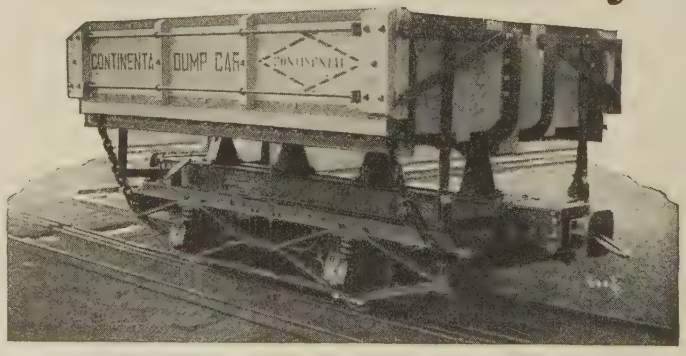
Well Mixed Concrete for Permanence—Ransome for better mixing.

RANSOME CONCRETE MACHINERY CO., Dunellen, N. J.

Chicago Office: 208 North Clinton St.
San Francisco Office: 931 Hearst Building.
Executive Offices: 115 Broadway, New York City.

(Member National Association Mixer Manufacturers)

Continental Heavy Duty Dump Cars



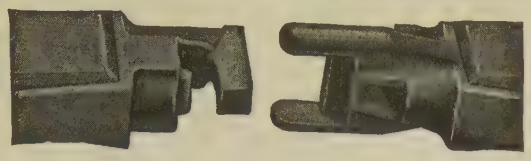
Built for strength and service in capacities up to 20 cu. yds.

They stick to the track—no need to chain 'em! Handle heaviest materials, yet safely tip to a 45-degree angle and shoot quick and clean.

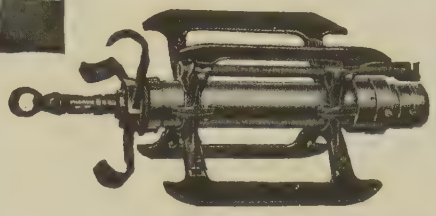
Send for specifications and prices. Prompt delivery assured.

CONTINENTAL CAR CO.
General Office: Pierce Bldg., ST. LOUIS

McCormick Bldg. Chicago
Factory: Louisville, Ky.
17 Battery Place, New York



Keep Your Sewers 100% Efficient



Sewer Rods

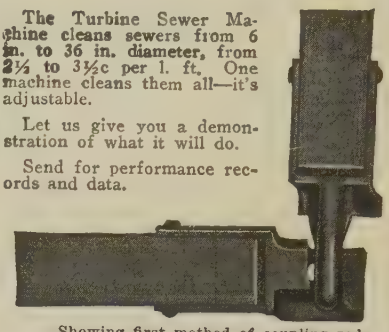
All Turbine rod couplings are made from malleable iron and will not break. All wood stock is straight grain Oregon fir.

The turbine rod couplings are absolutely fool proof, as they can only be put together one way and they never unlock when working.

The Turbine Sewer Machine cleans sewers from 6 in. to 36 in. diameter, from 2½ to 3½c per l. ft. One machine cleans them all—it's adjustable.

Let us give you a demonstration of what it will do.

Send for performance records and data.



Showing first method of coupling rods

TURBINE SEWER MACHINE RENOVATING CO.
197 Eleventh Street, MILWAUKEE, WIS.

THE BABCOCK & WILCOX COMPANY

85 Liberty Street, NEW YORK

BABCOCK & WILCOX—STIRLING—RUST

WATER TUBE STEAM BOILERS

STEAM SUPERHEATERS, MECHANICAL STOKERS

WORKS: BAYONNE, N. J.; BARBERTON, OHIO

BRANCH OFFICES
- ATLANTA, Candler Building
- BOSTON, 35 Federal St.
- CHICAGO, Marquette Building
- CINCINNATI, Traction Building
- CLEVELAND, New England Building
- DENVER, 435 Seventeenth St.
- HAVANA, CUBA, Calle de Aguiar 104
- HOUSTON, TEX., Southern Pacific Bldg.
- LOS ANGELES, 1 N. Van Nuys Bldg.
- NEW ORLEANS, Shubert Arcade
- PHILADELPHIA, North American Bldg.
- PITTSBURG, Farmers' Deposit Bank Bldg.
- SALT LAKE CITY, Kearns Bldg.
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STOCK SHIPMENTS

STEEL & IRON

Black & Galvanized

J. K. LARKIN & CO.

WAREHOUSES

NEW YORK BROOKLYN

KOPPEL

Cars and Track

For Sale or Rent

Complete Contractors Haulage Outfits. Dump Cars of all types and sizes, Dinkies, Portable Track, Rails, Steel Ties, Switches, Frogs, Turntables, Spikes, etc.

Write for sale or rental terms

PLANT KOPPEL, PA.

ORENSTEIN-ARTHUR KOPPEL CO.

Branches all over the world

SALES OFFICES
New York
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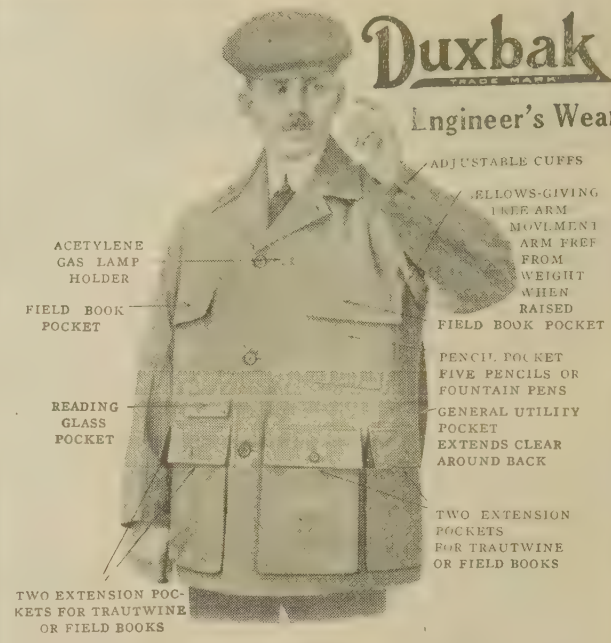
Duxbak
TRADE MARK
Engineer's Wear



Wear *Serviceable* Clothing

Practical, serviceable clothing, intelligently designed to fulfill the daily needs of the engineer, the surveyor, contractor and men engaged in outdoor professions. Note the many handy features illustrated above.

Special 8 oz. U. S. Army Duck is used, Cravenette Proofed. Lined with Duxbak Cravenette cloth, therefore *doubly* rain and weather proofed. Yet soft, pliable and durable.

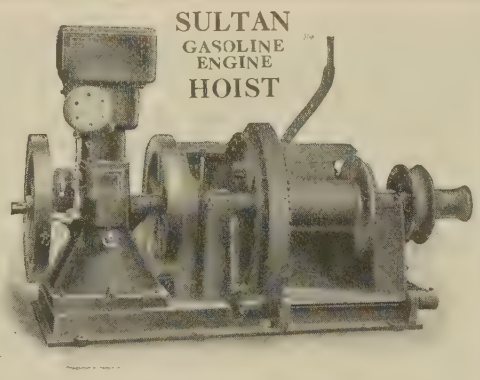
Send for sample of material and catalog showing complete outfits in various styles, including Duxbak Coats, Trousers, Breeches, Leggins, Hats, etc.

Complete outfits also made for women.

UTICA-DUXBAK CORPORATION

11 Hickory St., Utica, N. Y. *Successors to Bird, Jones & Kenyon*

SULTAN GASOLINE ENGINE HOIST



Your Engineer Will Like the

SULTAN HOIST

Tell him to read this ad and ask him what he thinks of these features.

Drum sheave and winch-head all reversible and can be operated independently of each other. Either sheave of drum, or both, may be disengaged from the main shaft by means of an eccentric.

Quick adjustment offsets wear on contracting band-type clutch.

Safety ratchet and pawl can be used constantly as precautionary measure while lifting excessive loads, and will hold the load at a certain height while winch-head is used as "boom swinger."

Any load in excess of the engine capacity is instantly locked by a powerful brake controlled by a convenient foot lever.

Machine-moulded, semi-steel gears insure accuracy, strength and staying quality.

Capacities 1400 to 3000 pounds.

Driven by Sultan 4-cycle gasoline engine.

SULTAN Equipment

is built to a standard of quality, operation, economy and long life. Every contractor should have a copy of our catalog for permanent reference. Send for yours.

WHITMAN A. COMPANY

6966 So. Broadway ST. LOUIS, MO., U. S. A.

The sheeting comes out in 2 or 3 minutes —pulled by a

McKiernan-Terry

DRIVE DOUBL DUTY PULL

Pile Hammer

Drive it with a "Double-Duty" Hammer—then pull it in perfect condition with the same Hammer. Piling that ordinary methods won't budge is easy for "Double-Duty" Hammers. These hammers have only TWO working parts. Write for BULLETIN.

McKiernan-Terry Drill Co.

235 Broadway, New York, N.Y.

Foreign Representatives: British Steel Piling Co., London, Eng. Canadian Representatives: Canadian Allis-Chalmers, Ltd., Toronto, Ont.

Rock Drills, Core Drills, Hammer Drills, Atlas Jacks, Pile Hammers

HOLLOW STEEL DOORS

THE SOLAR METAL PRODUCTS CO.

STARR AVENUE COLUMBUS, OHIO

NO-CO-RO METAL

—ANTI-CORROSIVE

We Can Ship

"ACME" (NESTABLE)

Corrugated Culverts

NO-CO-RO METAL

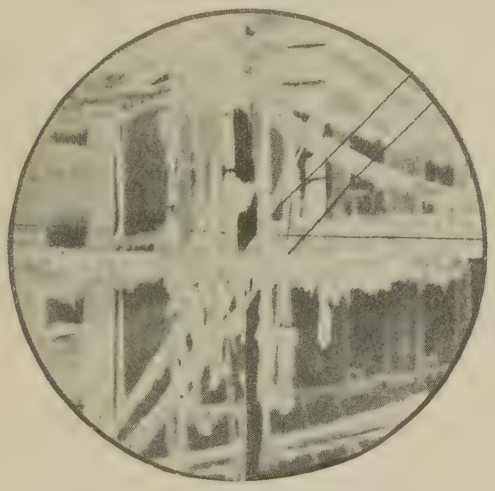
nested knocked-down, or Set-up—per your requirements. And we can guarantee reasonably prompt shipment.

But you'll want to know some real convincing facts about "ACMES" before you place your order. Our catalog G-3 is full of this material. Let us send you a copy—NOW!

THE CANTON CULVERT & SILO CO.
MANUFACTURERS
CANTON, OHIO, U.S.A.

Was this your nightmare

Mr. Municipal Engineer?



Put those wires underground—in

ORANGEBURG FIBRE CONDUIT

The foremost cities in this country are doing it—Baltimore, Cleveland, Detroit—the list keeps growing. And do you realize that Orangeburg is the standard for fibre conduit? WHY you can easily ascertain. Simply write us for Book "M."

THE FIBRE CONDUIT COMPANY
Orangeburg, N. Y.

New York Boston Chicago San Francisco

"PIONEER" Highest Quality ASPHALTS

An Expansion Joint of Quality

which meets National Paving Brick Specifications and all standard Specifications for Concrete Road Construction.

Manufactured in any thickness or width desired. Neatly crated and shipped to the job ready to lay in one operation.

The Pioneer Asphalt Co.

Producers of Highest Quality Bituminous Products.

LAWRENCEVILLE, ILL.

"PIONEER" Highest Quality ASPHALTS

TRAYLOR
Gyratory Crushers
are of
Superior Construction Thru-out

Having a Shaft of greater diameter and an Eccentric that is longer and larger in diameter than other Gyratories.

Concaves that can be removed without disturbing any other part of the crusher. With the Shaft suspended at the point of no motion by an all steel suspension, thus Guaranteeing you the MAXIMUM OUTPUT for the MINIMUM HORSEPOWER.

"Watch our Gyratory Ads."

Traylor Engineering & Manufacturing Co.

Main Office and Works,
ALLENTOWN, PA., U. S. A.

New York Office 32 Church St. — Chicago Office 1414 Fisher Building

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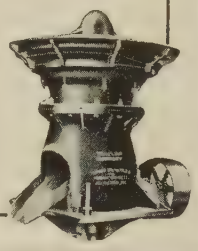
Salt Lake City, Utah



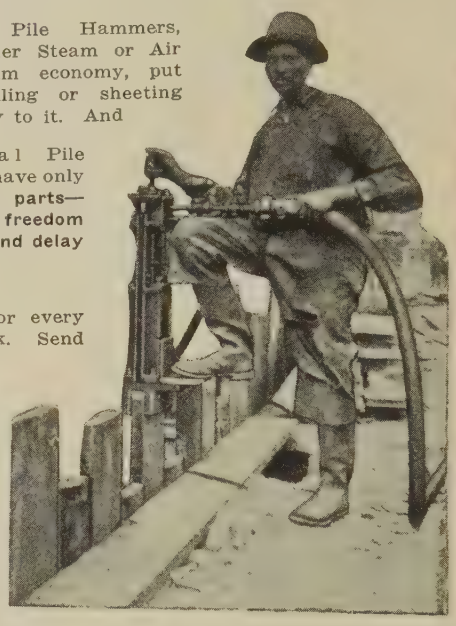
The Double Economy of NATIONAL
Double Acting Pile Hammers

When YOU drive Sheet Steel piling, Wood or Concrete Piles, you want to get maximum economy out of the job, don't you? Then you'll be interested to know that—

1—National Pile Hammers, using either Steam or Air with maximum economy, put down the piling or sheeting without injury to it. And

2—National Pile Hammers have only **four moving parts**—which spells **freedom from trouble and delay** on the job.

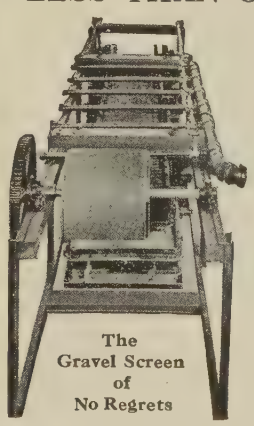
A Hammer for every type of work. Send for Catalog.



National Hoisting Engine Co.

Harrison N. J.

LESS THAN ONE CENT A YARD
to operate this
E. & S. SHAKER SCREEN
with Washer Attachment
(Patented)



The Gravel Screen of No Regrets

This price is not arrived at by theory or from an experimental plant. It is the figure of an actual commercial plant which is turning out 60 yards per hour of perfectly graded and cleaned sand and gravel of five different sizes.

In the plant on the right, shown below, our E. & S. Shaker Screen with washer attachment (above actual photo) replaced a $30,000 outfit of a different type, part of which still standing as shown on the left of the photo.

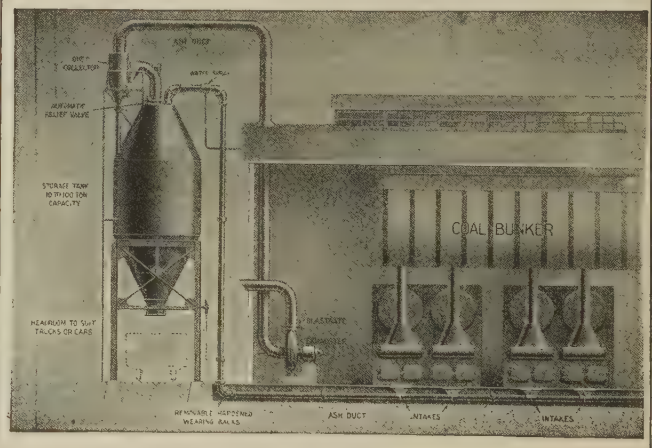
These E. & S. Screening Machines are not an experiment, having been in use for the past six years and the first installed are today doing first class work.

The machine has an exact eccentric motion which gives the screens a decided "throw," enabling them to turn out more material at less cost than any other screens with the same capacity. They do not have to be placed high in the air, the short distance to which the material must be raised not only reducing the operating cost, but the cost of belting and conveyors.

We Design and Install Complete Plants

Send for Catalogue and information on the E. & S. Shaker Screens and Conveying Systems

THE EXCAVATING & SCREENING MACH'Y CO.
748 Security Building MINNEAPOLIS, MINN.



The DARLEY SUCTION ASH CONVEYOR
"The Vacuum Cleaner Applied to the Power House"

No moving part in contact with ashes. Dustless, noiseless, removes noxious gases from the boiler room, quenches automatically, is not subject to corrosion and can be maintained at a small fraction of the expense of any other type of conveyor.

The efficiency and economy are indicated by repeat orders from the U. S. Government, General Electric Co., Standard Oil Co., Public Service Co. of Northern Illinois, Mass. Cotton Mills, Pierce-Arrow Motor Car Co., etc.

Ask for our booklet on coal and ash handling.

GUARANTEE CONSTRUCTION CO.

142 Cedar Street, NEW YORK

Chicago: 108 So. La Salle Street

Inserting or Removing a Nut

No Threads to Rust or Clog

Security Inserts

(Patented)

No cleaning out of concrete, no tapping to remove rust from threads. There are no threads to rust or clog with concrete in the Security.

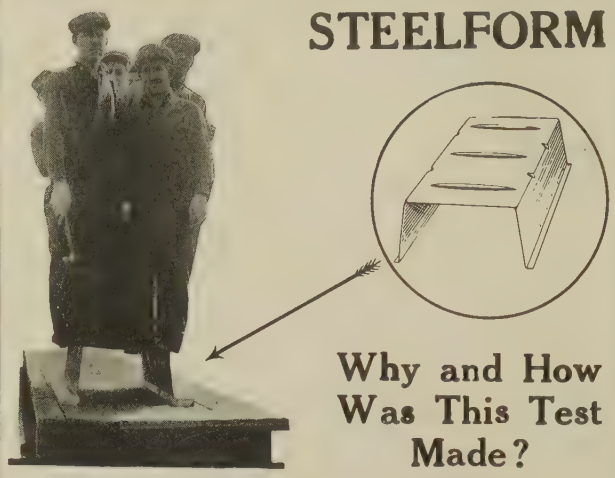
Security Inserts can be left unused indefinitely, and they always remain the same—rust-proof—clog-proof—trouble-proof.

And they are nailed to the forms *quickly*—economy for the contractor. The Security Bulletin?

Security Insert Company

101 N. 33d St., Philadelphia, Pa.

Six Men on one MEYER STEELFORM



Why and How Was This Test Made?

WHY? Because it shows the great rigidity of the Meyer Steelform, the point that successful contractors, engineers and architects are rapidly realizing. Meyer Steelforms are four times as thick as any other metal form, the depression in the top and corners making them so solidly rigid that they stand up under extraordinary loads.

HOW? This Meyer Steelform had already been used in several buildings. You understand that Meyer Steelforms are so rigid that they are removed and re-used in successive floors and in different buildings. We nailed this one down to a bench just as it would be nailed down to the open wood centering on the job. The men piled on and the photograph shows how splendidly this and every Meyer Steelform stands up under excessive loading. This solid rigidity permits their installation on a rental basis, and produces smooth, accurate concrete work. **We would like to explain the economy of Meyer Steelform Construction. Write for our Handbook.**

CONCRETE ENGINEERING CO.

Omaha District Offices: Salt Lake City, Chicago, San Francisco, Kansas City, Los Angeles **Nebr.**

Do Your Own Bar Bending and Save Time and Money

The McKenna bends rods up to 1¼ inches diameter.

It has vise arrangement to keep rods in adjustment when making more than one bend in a rod. All wearable parts cast steel. Arranged for any style power drive.

Write for price and booklet NOW.

McKenna Company

1851 E. 38th Street **Cleveland, Ohio**

S. M. C. *Really* LOCKS the Concrete to the Steel

and holds it in place—permanently. It's doing it on the J. P. Morgan Building now.

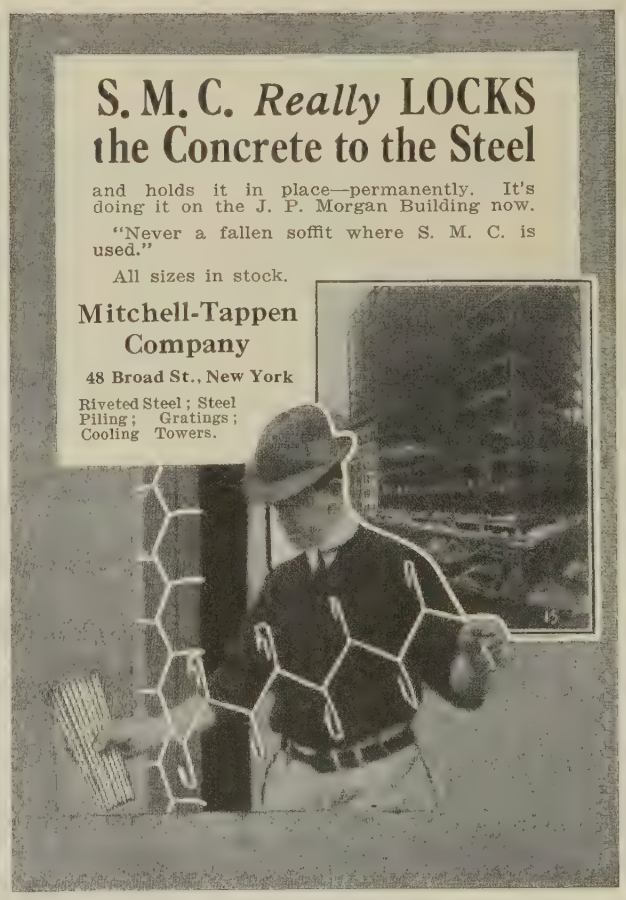
"Never a fallen soffit where S. M. C. is used."

All sizes in stock.

Mitchell-Tappen Company

48 Broad St., New York

Riveted Steel; Steel Piling; Gratings; Cooling Towers.



"Anti-Hydro"

A liquid integral Concrete Hardener

WATERPROOFING DAMPPROOFING

Results are positive and permanent

"It is the most impermeable of any of the Mortars" — Tech. Paper No. 3 United States Bureau of Standards.

"Anti-Hydro" is a liquid integral compound which, when added to the water for gauging the cement mixture, makes the resulting masonry waterproof, dustless and adamant. The most efficient waterproofing and concrete hardener known.

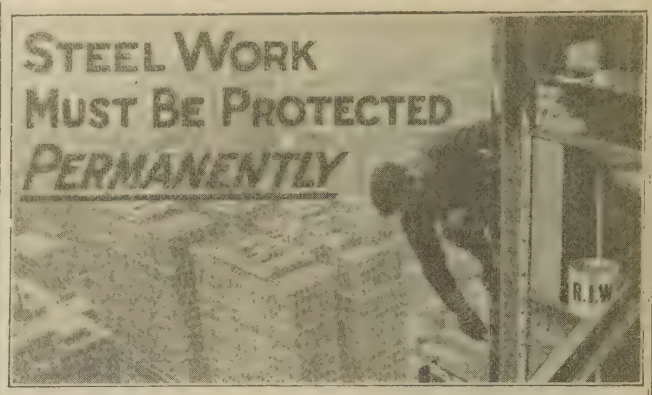
Correspondence solicited on all difficult Waterproofing and Concrete Hardening propositions.

Write for Booklet

Anti-Hydro Waterproofing Co.

170 Washington St., Newark, N. J. | Singer Building, New York City. | 6 Beacon St., Boston, Mass.

Booth 79, BUILDING EXPOSITION
Grand Central Palace, New York



—For, remember, a building lasts only as long as its skeleton. Rust and electrolytic action attack structural steel and eat it away.

TOCKOLITH AND **R.I.W.** (REMEMBER IT'S WATERPROOF)

THE PATENTED CEMENT PAINT — DAMP-RESISTING PAINT

Applied, one as a protective primer, the other as a finishing coat, make steel immune to corrosion, and effectively insulate it against any possible electrolysis.

R. I. W. Tockolith is a patented cement coating that possesses the unique property of combining with rust and forming calcium ferrite—thus preventing progressive oxidation.

"R. I. W." Damp Resisting Paint is made in various grades to meet special conditions.

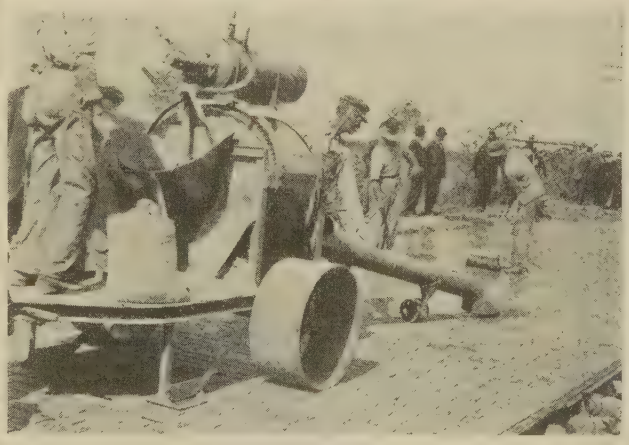
Write for descriptive booklets, Dept. R

Toch Brothers

Technical and Scientific Paint Makers Since 1848.

320 Fifth Avenue, New York

Works: New York, London, Eng., Toronto, Canada.



Reduce Your Grouting Costs

Contractors who have used the Marsh-Capron Grouter for grouting brick pavement are our most enthusiastic boosters.

"We save one half the cost and do the work in half the time" they say.

One hundred one bag batches per hour of uniform mixed grout is only the average of what you may expect with the

MARSH-CAPRON GROUTER

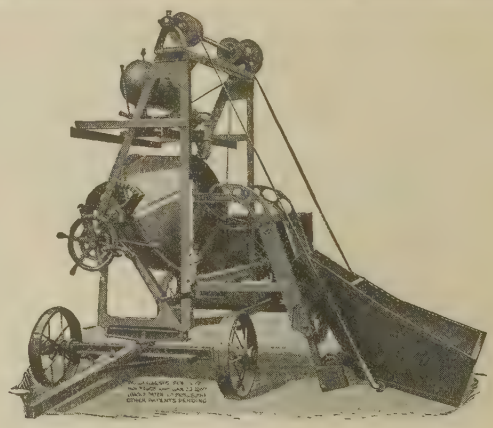
The mixing qualities of the machine are on a par with all Marsh-Capron Mixers—meaning

"Most Mixing—Least Fixing"

The spout on wheels puts the grout just where you want it, and in just the right amount—no waste.

Write today for catalog. Remember we manufacture Standard Mixers and Paving Mixers—all sizes and with the right equipment to get maximum results.

MARSH-CAPRON MFG. CO.
1478 Lumber Exchange, Chicago



WONDER MIXERS

Give longer mix and better quality with output equal to others of same capacity by reason of their short travel loaders. Or, if speed is the main thing you get more batches per hour with quality equal to any.

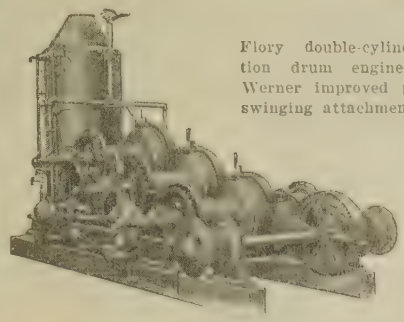
This is only one of the reasons why many of the largest contractors are *Standardizing* on the WONDER.

Ask us for more reasons.

Waterloo Cement Machinery Corporation

110 Vinton St., Waterloo, Iowa

New York Chicago Kansas City San Francisco



Flory double-cylinder three-friction drum engine with Flory-Werner improved patented boom-swinging attachment.

FLORY DATA No. 56

A good old standard, specially designed for handling buckets

Drums are raised well above each other to give clearance for ropes. Frictions on each drum are unequaled for efficiency and durability. Use it for general contractor's work.

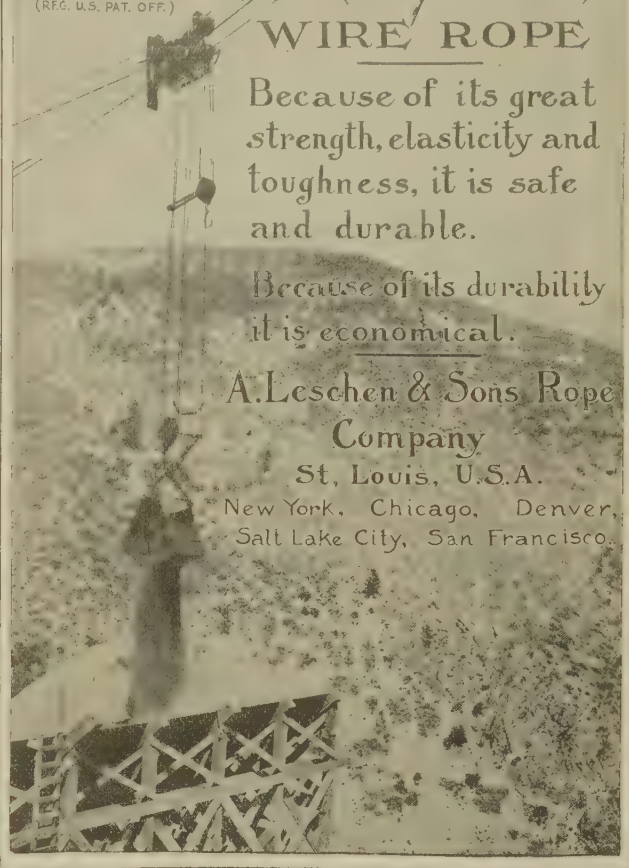
NEXT—On withstanding abuse.

Flory

S. FLORY MFG. CO.
BANGOR, PA.
95 Liberty St. NEW YORK

Steam, Electric and Gasoline Hoists
Cableways Capstans
Dredging and Slate Working Machinery

"HERCULES" (RED STRAND)
(REG. U.S. PAT. OFF.)
WIRE ROPE



Because of its great strength, elasticity and toughness, it is safe and durable.

Because of its durability it is economical.

A. Leschen & Sons Rope Company
St. Louis, U.S.A.
New York, Chicago, Denver, Salt Lake City, San Francisco.

Proportioned for Fast Work

Every detail of the Stroudsburg Engine is designed to take full advantage of the 125 pounds boiler pressure.

Stroudsburg
Hoisting Engines

Ask any Stroudsburg user what kind of service he gets —from the engine and the works.

Write to-day for Catalog 9

STROUDSBURG ENGINE WORKS
66 North 3rd Street, Stroudsburg, Pa.

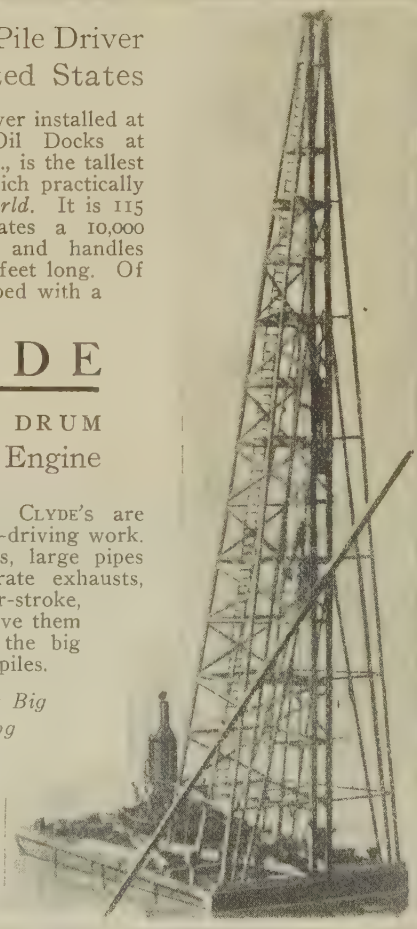
The Tallest Pile Driver In the United States

This Titanic Tower installed at the Standard Oil Docks at Baton Rouge, La., is the tallest in the U. S., which practically means *in the world.* It is 115 feet high, operates a 10,000 pound hammer and handles sticks up to 135 feet long. Of course it's equipped with a

CLYDE
DOUBLE DRUM
Hoisting Engine

QUICK-STEAMING CLYDE'S are unrivalled in pile-driving work. Their big boilers, large pipes and ports, separate exhausts, and long power-stroke, all combine to give them SPEED, which is the big point in placing piles.

Send for that Big Red Catalog



CLYDE IRON WORKS
DULUTH, MINN.

Don't Wait

FOR SOUTHERN SHIPMENT

of

YELLOW PINE

17,000,000 Feet in our Phila. Yard

Ready for Immediate Shipment

Complete Working Facilities

PEARSON & LUDASCHER LUMBER CO.

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Means Certainty

You men in the field will welcome our Booklet R-2. Send for a copy.

Certainty of Strength—
Certainty of Flexibility—
Certainty of Elasticity—
Certainty of Toughness.

In brief—absolute certainty that the grade of Excelsior you select will render perfect service on the job—a fact made certain by its record on real work. You should certainly get our Booklet R-2.

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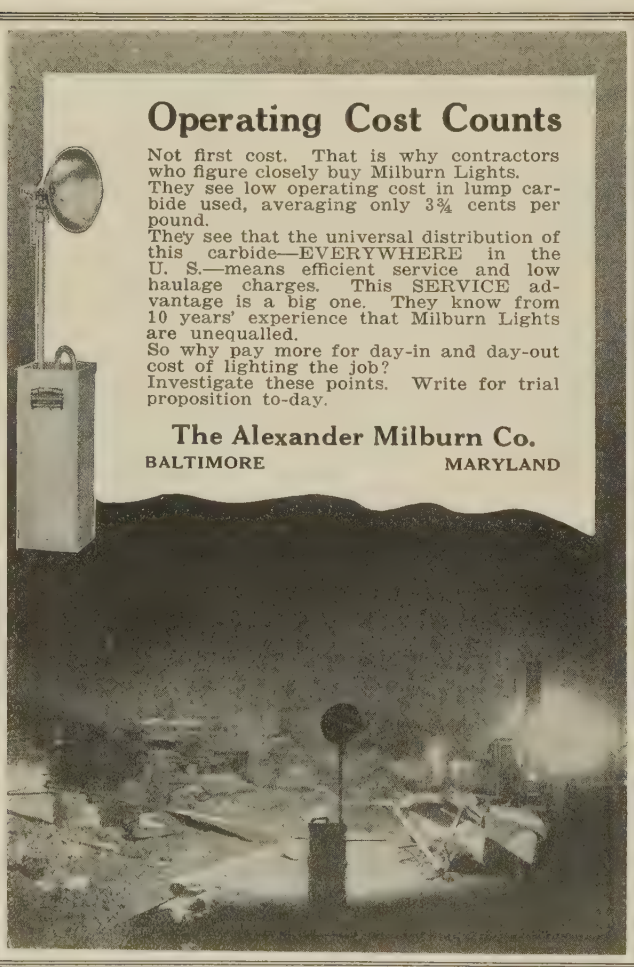

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Not first cost. That is why contractors who figure closely buy Milburn Lights.
They see low operating cost in lump carbide used, averaging only 3¾ cents per pound.
They see that the universal distribution of this carbide—EVERYWHERE in the U. S.—means efficient service and low haulage charges. This SERVICE advantage is a big one. They know from 10 years' experience that Milburn Lights are unequalled.
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Investigate these points. Write for trial proposition to-day.

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WATER! WATER!

Everywhere, but not a drop on the job.

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HIGH PRESSURE PUMPING OUTFIT

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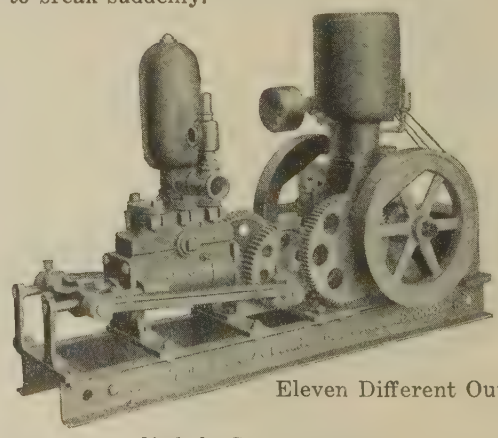
The Pump That Has "MADE GOOD"

Working parts of steel and malleable iron. No cast iron to break suddenly.



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THE BARNES MANUFACTURING CO.

At Mansfield, Ohio *Sold Everywhere*

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We Shall Exhibit and Demonstrate a Model Three Keystone Ten-Ton Traction Shovel

with full equipment of scoops, Skimmer (for road grading), Dipper (for side-hill excavating), and Ditcher (for trenching, back-filling and cellar digging),

AT THE

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April 17th to 21st, 1917

The machine will be in operation. A representative and an expert demonstrator will be at hand.

We urgently request all of our Southern friends and any others who may be interested in the vital question of improved machinery for good roads construction to attend this convention and familiarize themselves with the Keystone Ten-Ton Traction Shovel.

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Beaver Falls, Pa.
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Steam Shovels, Dredges, Draglines and Kindred Machinery

"ALL our Shovels are of your make, which shows our opinion of the 'Marion' "—say the General Construction Company, of Spokane, Washington. The Model 36 shown above, with Caterpillar traction, has given efficient service in highway construction between Lewiston and Uniontown, Idaho. Here are some things it has accomplished:—

Five Per Cent Grade, 90° Curves—200,000 Yards Moved, Mostly Rock

Its owners say it may be handled with great ease—for example, just after unloading it, the Shovel moved up a 19% sandy grade, on a ninety-pound steam pressure. It was regularly moved forward without blocking or other preparation, and with minimum labor on the ground.

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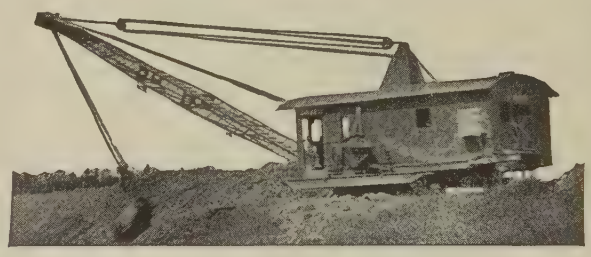

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A feature exclusive to Monighan Excavators which the contractor must see in action but once to appreciate.

Over any ground—soft, muddy or rough, it "walks"—the excavator without planks, skids, track or trackmen.

Labor cost is cut, more material handled and the whole job speeded up.

Catalog No. 17 explains these advantages in detail. With it we will send you the name of the user nearest you.

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digging iron ore at Berkshire Iron Works, Sheridan, Pennsylvania.

They say: "It is the best bucket that we know of. We have an ordinary clam-shell bucket made by another concern that we were unable to use at all."

If you want a bucket that will dig, write for catalog No. 614 NOW.

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An Extra Sheave—

⅓ more closing power!

Closing power—or **digging power**—is the first and most important factor when you are buying a bucket.

By elimination of all working parts below the main shaft—an extra sheave above to give an extra part of closing line—there is exactly ⅓ more closing power in

WILLIAMS BUCKETS

And they are built for long service; all steel; simple construction, with extra large bearings; alignment of sheaves and scoops exact at all times; all sheaves bronze bushed; cables perfectly guarded.

Write for full description and prices.
A Bucket for Every Service.

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Ask for Latest Pamphlet

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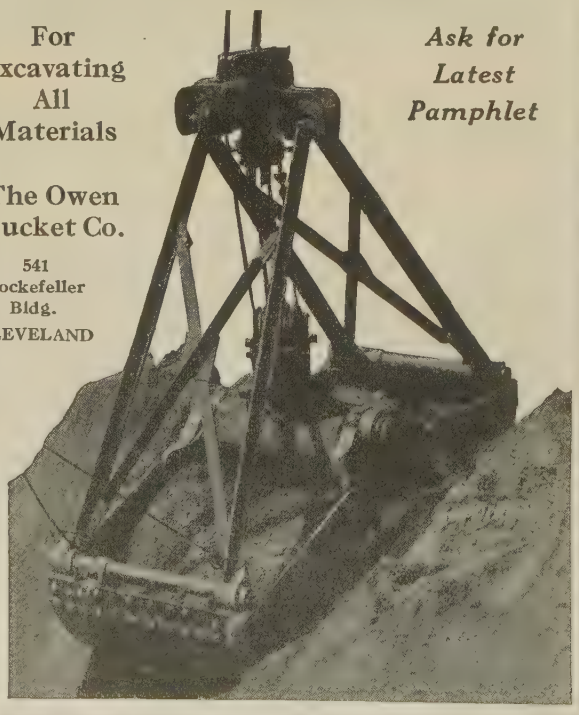

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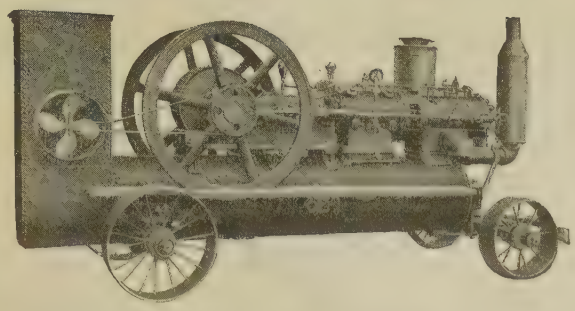
Sand, Gravel and Stone Handling

This Class "E" Clam Shell Bucket, with ore bowl, is an ideal type for the fast unloading and rehandling of sand, gravel and similar materials. It is not only a quick digger, but it fills to more than its rated capacity each trip, crowns right up to the power-wheel.

Our new Catalog 43 describes this and all other types. May we send you a copy?

Orange Peel, Clam Shell, Drag Scraper and Electric Motor Buckets

The Hayward Company, 50 Church St., New York



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but held up at New York

due to shipping complications,

twelve of these sturdy Portable Fuel Oil Driven Compressors, Class N-SO as illustrated above, have been returned to our factory at Franklin, Pa., and are subject to Immediate Delivery. Capacities from 196 to 309 cubic feet free air per minute. Have passed rigid government inspection.

Will be sold Tank Mounted as shown or Unmounted for semi-portable or stationary service.

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Expansion is Distributed Equally

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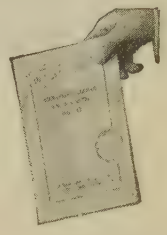

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Prove for yourself what common sense tells you beforehand.

Ask us to forward service records and particulars.

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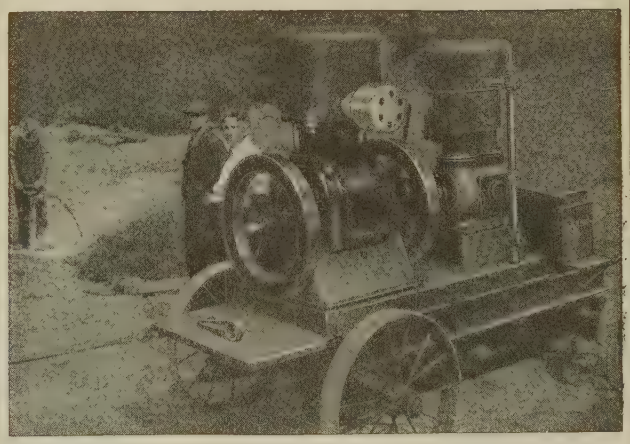
METAL HOSE



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They're getting away with it by cutting out hand-drilling and taking compressed air right to every job with the

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Built in ten sizes—from 5 to 140 cu. ft. capacity. Each a strong, compact outfit. It keeps in true alignment. Standard, high-grade vertical compressor—single-cylinder and duplex.

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For years to come it will stand up as NATIONAL QUALITY pipe and tanks always do. Never bursts from freezing.
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You don't have to keep removing the wrench to take another hold. You don't have to hunt and struggle for an advantage in cramped space, or risk life and limb with wrenches that are liable to fly off the nut and leave workmen clutching the air for support.

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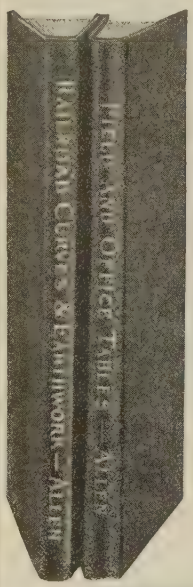

Whenever you have a problem of location — track, water mains highways or sewers—this book will help you.
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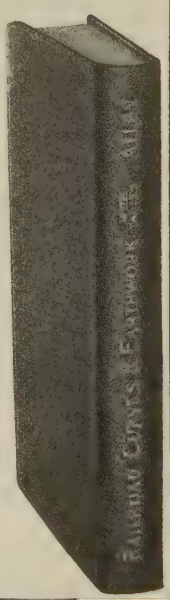

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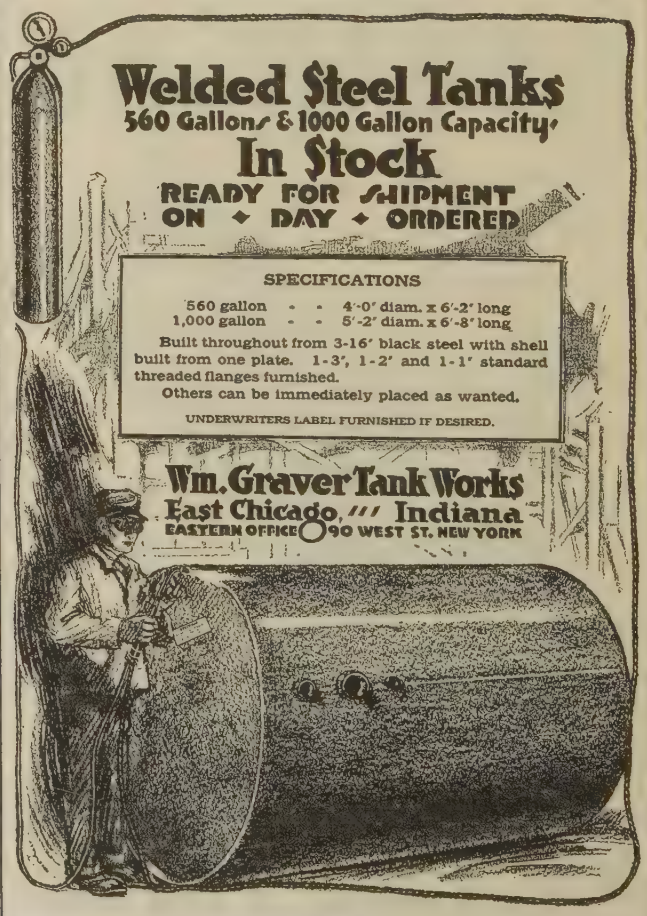

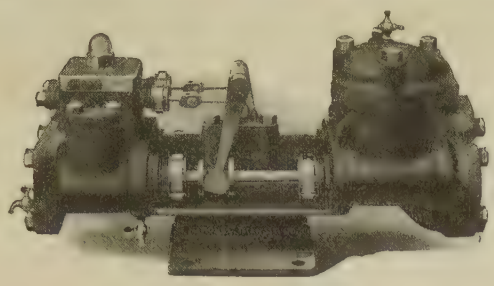

Concentrated Effort Spells Success

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We think we know how to make them about right.

And if you are in a hurry for any of the smaller sizes, suppose you consult our Stock List—we will be glad to send you one. Address Department "B."

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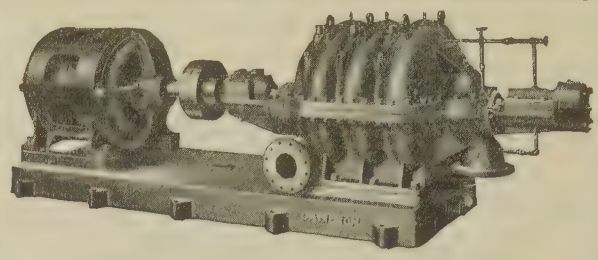
The Slogan of the Cameron —"Character: The Grandest Thing"



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The **Cameron Centrifugal** shown above, is a motor-driven 6″ four-stage, with a capacity of 1000 gallons a minute against 500 feet head at 1165 R.P.M. It has proved very efficient and economical.

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2. Sullivan Boosters use the same compressed air, for this work, that was previously used to lift the water to the surface of the well.
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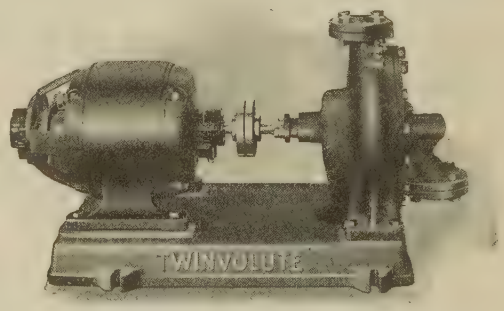

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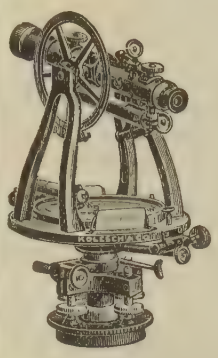

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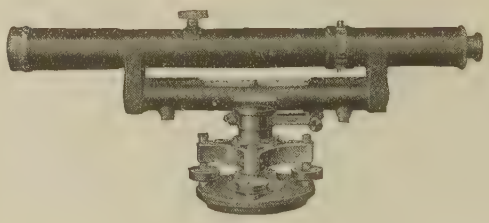

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Specify "Steelcrete" by its name.

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Heavy channel-shaped spacers, which clamp rigidly to the spiral.

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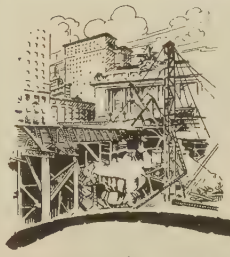

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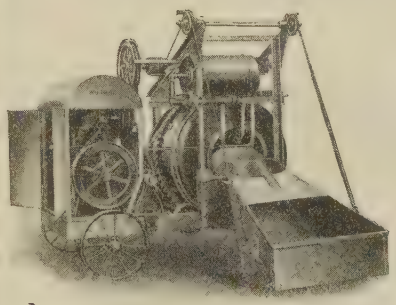

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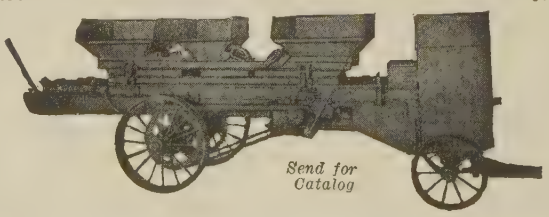
This feature, combined with its high productive capacity, makes the Kent the most economical and efficient Mixer on the market today.



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Work on Staten Island Sound, Newark Bay, Passaic River and Adjacent Territory a Specialty

Derrick Efficiency with

DAKE Motor Crabs

means more work in less time, and less operating expense.

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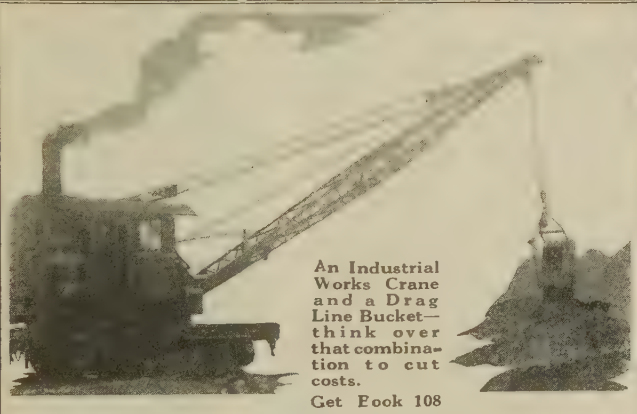

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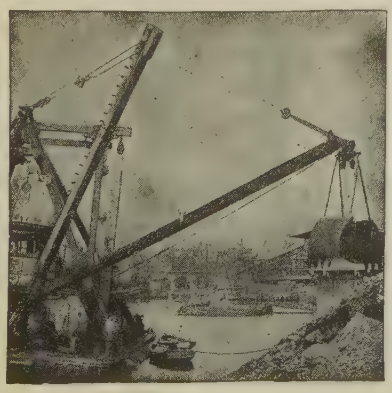

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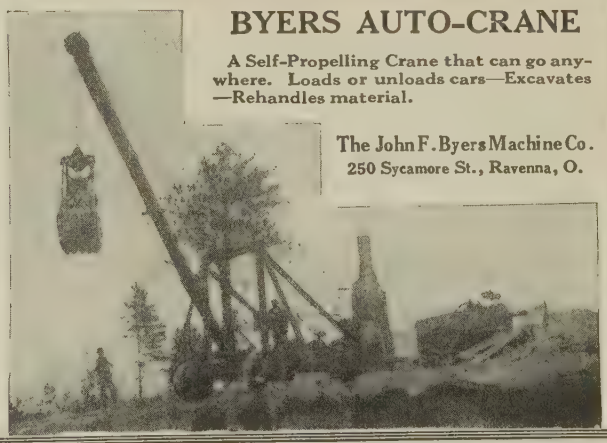

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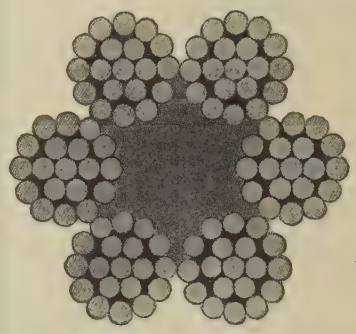

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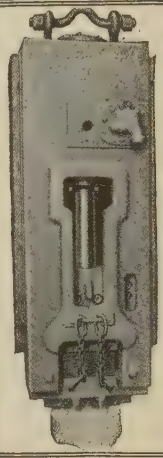

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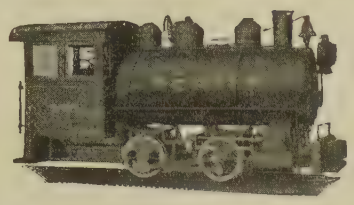

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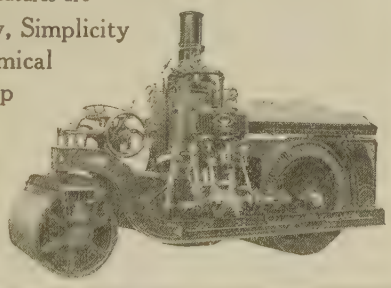

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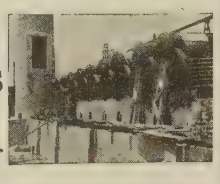

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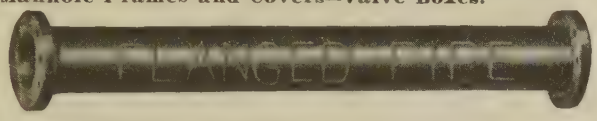

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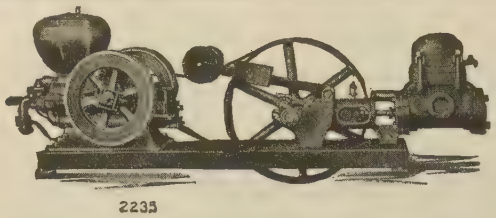

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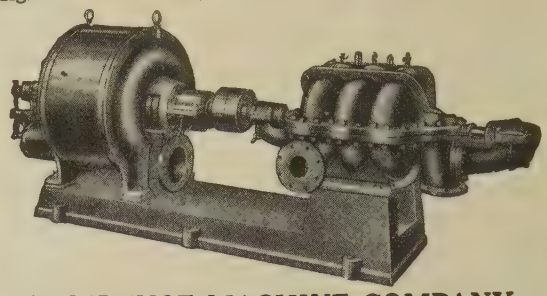

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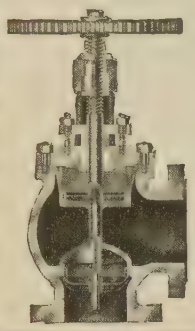

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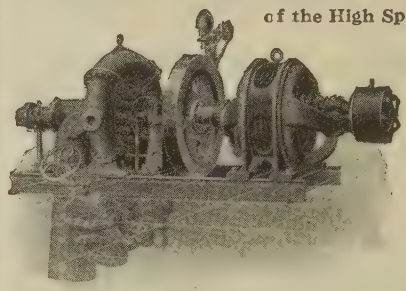

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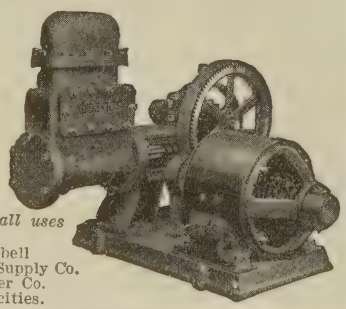

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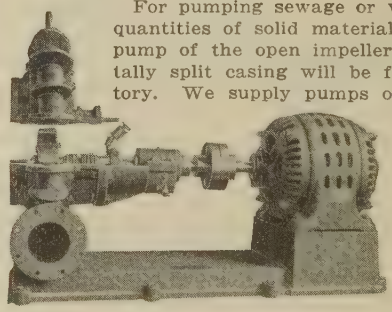

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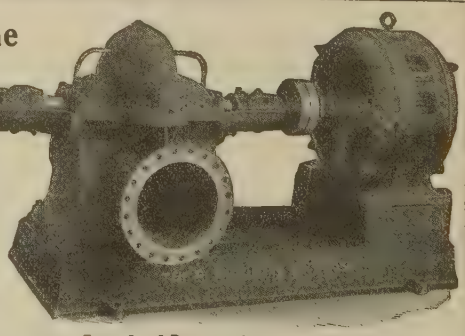

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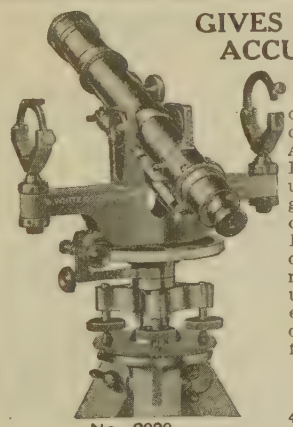

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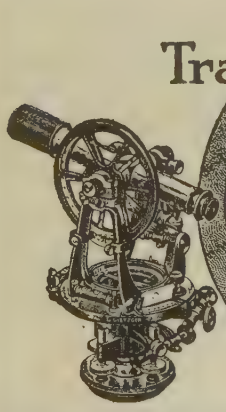

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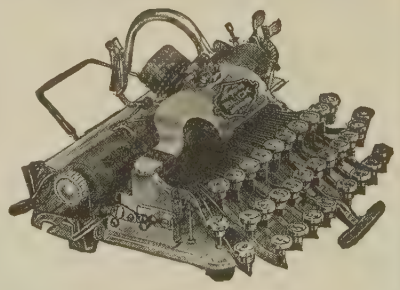

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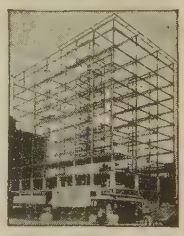

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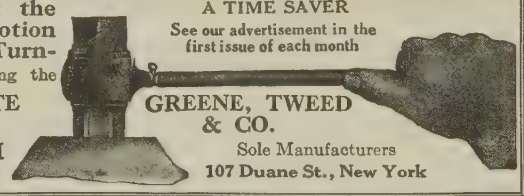

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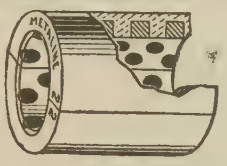

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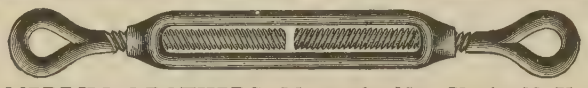

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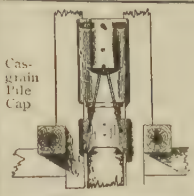

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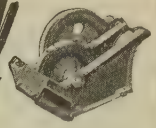
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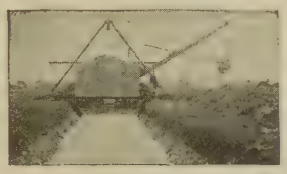

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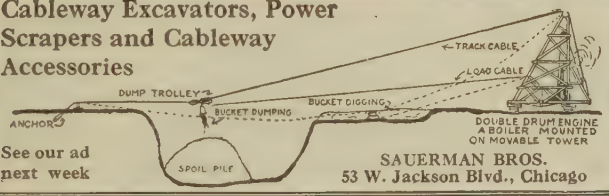

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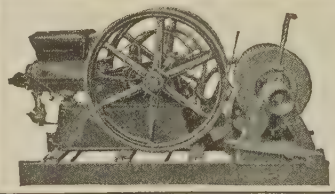

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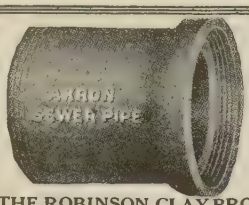

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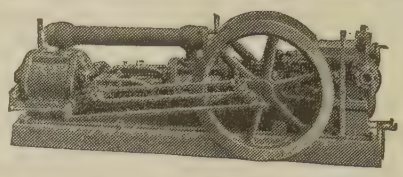

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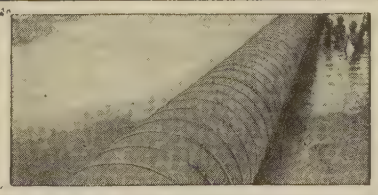

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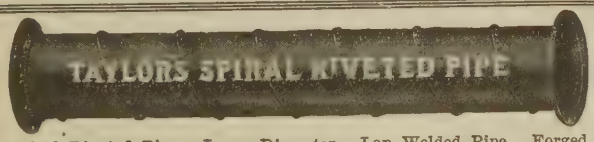

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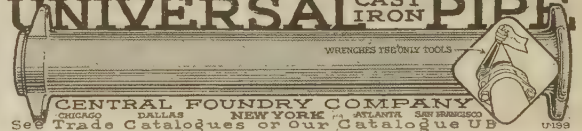

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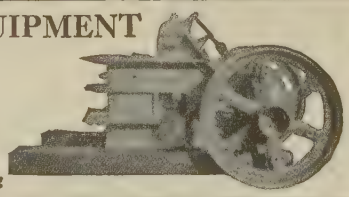
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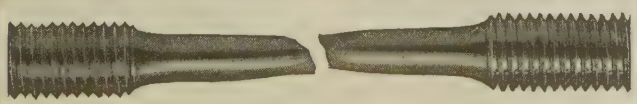
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Dredge Pipe
Machold & Riddell

Dredging Contractors
Atlantic, Gulf & Pacific Co.

Dredging Machinery
Atlantic, Gulf & Pacific Co.
Bay City Dredge Works
Blaw Steel Construction Co.
Hayward Co.
Osgood Co.
Owen Bucket Co.

Drills
Schramm & Son, Chris. D.

Drills, Blast Hole
Keystone Driller Co.

Drills, Core
Ingersoll-Rand Co.
McKiernan-Terry Drill Co.
Sullivan Mchry. Co.

Drills, Electric
Ingersoll-Rand Co.

Drills, Pneumatic
Chicago Pneumatic Tool Co.
Ingersoll-Rand Co.
Sullivan Mchry. Co.

Drills, Rock
Chicago Pneumatic Tool Co.
Ingersoll-Rand Co.
McKiernan-Terry Drill Co.
Penn. Drilling Co.
Sullivan Mchry. Co.

Drums, Hoisting
Hayward Co.
Ransome Concrete Machy. Co.

Dryers, Cement, Asphalt, Sand
Bartlett & Snow Co., C. O.
Fuller Engineering Co.
Traylor Engr. & Mfg. Co.
Vulcan Iron Works, Wilkes-Barre, Pa.

Dust Collectors
Bartlett & Snow Co., C. O.
Minneapolis S. & M. Co.
Raymond Bros. I. P. Co.

Dynamite
Atlas Powder Co.

Electrical Supplies
General Electric Co.
Westinghouse Elec. & Mfg. Co.

Electrical Wires and Cables
Roebling's Sons Co., J. A.

Elevators
Bartlett & Snow Co., C. O.
Byers Mach. Co., John F.
Chain Belt Co.
Insley Mfg. Co.
Monighan Machine Co.
Ransome Concrete Machy. Co.
Ridgway & Son Co., Craige
Traylor Eng'g & Mfg. Co.
Universal Road Machy. Co.

Elevators, Bucket
Link Belt Co.
Smith Engineering Works

Engineers & Contractors
(See also Directory of Engineers)
American Bridge Co.
Amer. Pipe & Cons. Co.
Atlantic, Gulf & Pacific Co.
Guarantee Construction Co.
New York Telephone Co.
Pittsburgh-Des Moines Co.
Raymond Con. Pile Co.
Smith, Hauser & MacIsaac, Inc.
Stone & Webster Eng'g Corp.
Terry & Tench Co.

Engineers' and Draftsmen's Instruments and Supplies
Ainsworth & Son, Wm.
Aloe Co., A. S.
Beckmann Co., L.
Blickensderfer Mfg. Co.
Brandis & Sons Mfg. Co.
Buff & Buff Mfg. Co.
Defiance Mfg. Co.
Dietzgen Co., Eugene
Dixon Crucible Co.
Gurley, W. & L. E.

Higgins & Co., Chas. M.
Keuffel & Esser Co.
Kolesch & Co.
Leupold, Voelpel & Co.
Lufkin Rule Co.
National Tracing Cloth Co.
Utica Duxbak Corp.
Weber & Co., F.
White & Co., Inc., David

Engines, Deep-Well Pumping
American Well Works, The
Worthington Pump & Mchry. Corp.

Engines, Gas, Gasoline, Oil
Bond Co., Harold L.
Chicago Pneumatic Tool Co.
Ideal Engine Co.
National Transit Pump & Mach. Co.
Schaefer Mfg. Co.
Worthington Pump & Machy. Corp.

Engines, High-Duty Pumping
(See also Pumps)
Allis-Chalmers Mfg. Co.
Wood & Co., R. D.
Worthington Pump & Machy. Corp.

Engines, Hoisting
Allis-Chalmers Mfg. Co.
Bond Co., Harold L.
Buffalo Contrs. Plant Corp.
Byers Mach. Co., John F.
Clyde Iron Works
Dake Engine Co.
Dobbie Foundry & Mach. Co.
Economy Exc. Co.
Flory Mfg. Co., S.
Lidgerwood Mfg. Co.
Mead-Morrison Mfg. Co.
Monighan Machine Co.
Novo Engine Co.
Ransome Concrete Machy. Co.
Stroudsburg Engine Works
Thomas Elevator Co.

Engines, Incline Cableway
Lidgerwood Mfg. Co.
Vulcan Iron Works, Wilkes-Barre, Pa.

Engines, Portable
Ideal Engine Co.
Novo Engine Co.

Engines, Steam
Ball Engine Co.
Erie Steam Shovel Co.
Sturtevant Co., B. F.

Excavating Machinery
Austin Drainage Ex. Co., F. C.
Baker Mfg. Co.
Ball Engine Co.
Bay City Dredge Works
Blaw Steel Construction Co.
Carson Trench Mach. Co.
Clyde Iron Works
Economy Exc. Co.
Erie Steam Shovel Co.
Excavating & Screening Machy. Co.
Hayward Co.
Keystone Driller Co.
Lakewood Engineering Co.
Lidgerwood Mfg. Co.
Marion St. Shovel Co.
Monighan Machine Co.
Municipal Eng'g & Contracting Co.
Orton & Steinbrenner Co.
Osgood Co.
Parsons Co., The
Pawling & Harnischfeger Co.
Rochester Excvtg. Mchy. Co.
Sauerman Bros.
Terry Mfg. Co., Edw. F.
Thew Auto Shovel Co.
Union Iron Works
Vulcan Iron Works, Wilkes-Barre, Pa.
Western Wheeled Scraper Co.
Williams Co., G. H.

Expanded Metal
Consolidated Expanded Metal Cos.
North Western Expanded Metal Co.

Explosives
Atlas Powder Co.

Fans
General Electric Co.
Raymond Bros. I. P. Co.
Sturtevant Co., B. F.
Westinghouse Elec. & Mfg. Co.

Fans, Electric
General Electric Co.
Westinghouse Elec. & Mfg. Co.

Feed-Water Heaters
(See Heaters, Feed-Water)

Fence, Railing & Posts
(See also Bridges, also Structural Steel)
American Steel & Wire Co.
Berlin Construction Co.

Equipment and Materials Sold by Advertisers in This Issue

Filing Cabinets
General Fireproofing Co.

Filters, Apparatus for Water
Builders Iron Foundry
International Filter Co.
N. Y. Con. Jewell Filt. Co.
Norwood Eng'g Co.
Permutit Co.
Roberts Filter Mfg. Co.
Scaife & Sons, Wm. B.
Simplex Valve & Meter Co.
Wallace & Tiernan Co., Inc.

Filters, Feed Water
N. Y. Cont. Jewell Filt. Co.
Ross Valve Mfg. Co.
Scaife & Sons, Wm. B.

Filters for Chemical Solutions and Acids
General Filtration Co.

Filters for City Water Works
N. Y. Cont. Jewell Filt. Co.
Norwood Eng'g Co.
Roberts Filter Mfg. Co.
Wallace & Tiernan Co., Inc.

Fire Department Supplies
Morse & Son, A. & J.

Fire Escapes, Steel
(See also Structural Steel)
Berlin Construction Co.

Fireproof Material and Construction
(See also Reinforcing Metal for Concrete Work)
Asbestos Protected Metal Co.
Corrugated Bar Co.
General Fireproofing Co.
Mitchell-Tappen Co.

Flat Wire
Roebling's Sons Co., J. A.

Floor, Wood Block
Ayer & Lord Tie Co.
Barrett Co., The
Jennison-Wright Co.

Flumes, Iron and Steel
Des Moines Bridge & Iron Co.
Pittsburgh-Des Moines Stl. Co.

Flush Tanks
(See Tanks, Flush)

Forgings, Bronze
American Manganese Bronze Co.

Forgings, Steel
American Bridge Co.
Camden Forge Co.
Carnegie Steel Co.
Union Iron Works

Form Clamps
Insley Mfg. Co.
Universal Form Clamp Co.

Forms for Sewers, Conduits, Etc.
Blaw Steel Constr. Co.
Foote Concrete Mchry. Co.
Hydraulic Pressed Steel Co.
Traylor Engr. & Mfg. Co.

Forms for Walls, Building Construction, Etc.
Blaw Steel Constr. Co.
Hydraulic Pressed Steel Co.

Forms, Curb and Sidewalk
Blaw Steel Constr. Co.

Forms, Road
Blaw Steel Construction Co.

Forms, Special Wire
Roebling's Sons, J. A.

Foundations
Foundation Co.
Graver Tank Works, Wm. B.
MacArthur Conc. Pile & F. Co.
Raymond Concrete Pile Co.
Smith, Hauser & MacIsaac, Inc.
Substructure Co.
Underpinning and Found. Co.

Foundry Supplies
(See Blast Furnaces and Fittings)

Frogs and Switches, Railway
(See also Tracks and Switches)
Lakewood Engineering Co.
Orenstein-Arthur Koppel Co.

Fuel Economizers
Sturtevant Co., B. F.

Furnaces, Garbage and Refuse
Bartlett & Snow Co.
Power Specialty Co.

Furnaces, Lead
(See Pipe Line Supplies)

Garbage Crematories
(See Furnaces, Garbage and Refuse)

Gas Holders
Des Moines Bridge & Iron Co.
Graver Tank Works, Wm. B.
Petroleum Iron Works
Riter-Conley Co.
Wood & Co., R. D.

Gas Producers
Riter-Conley Co.
Wood & Co., R. D.
Worthington Pump & Machy. Corp.

Gas Works Construction
American Pipe & Cons. Co.
Riter-Conley Co.

Gaskets
(See also Steam Specialties)
Badger & Sons Co., E. B.

Gates and Valves
Coffin Valve Co.
Coldwell-Wilcox Co.
Jenkins Bros.
Pratt & Cady Co., Inc.
Ross Valve Mfg. Co.
Wood & Co., R. D.

Gates, Ore Bin
Insley Mfg. Co.
Traylor Eng'g & Mfg. Co.

Gears
Chain Belt Co.

Governors, Water Wheel
Pelton Water Wheel Co.
Woodward Governor Co.

Graders, Elevating
Austin Mfg. Co.
Austin Western Rd. Mchy. Co.
Russel Grader Mfg. Co.
Western Wheeled Scraper Co.

Granite
Rockport Granite Co.

Graphite
Dixon Crucible Co., Jos.

Gravel Washing Plants
Dull Co., Raymond W.
Excavating & Screening Machy. Co.

Grinding Machinery
(See Crushers and Pulverizers)

Hammers, Pile Driving
(See Pile Driving Machinery)

Hammers, Pneumatic
(See Tools, Pneumatic)

Headgates
Coffin Valve Co.

Heaters, Feed Water
Platt Iron Works
Sturtevant Co., B. F.
Worthington Pump & Mchry. Corp.

Heaters, Water Concrete & Mortar
Londelius & Sons Co., C. A.

Heating and Ventilating Apparatus
Sturtevant Co., B. F.

Hoists, Concrete
Insley Mfg. Co.
Lakewood Eng'g Co.
Ransome Concrete Machy. Co.

Hoists, Electric, Gasoline and Steam
Buffalo Contractors Plant Corp.
Byers Mach. Co., J. F.
Clyde Iron Works
Dobbie Foundry & Mach. Co.
Flory Mfg. Co., S.
General Electric Co.
Ideal Engine Co.
Lakewood Engineering Co.
Lansing-Co.
Lidgerwood Mfg. Co.
Mead-Morrison Mfg. Co.
Minneapolis Stl. & Mchry. Co.
National Hoisting Engine Co.
Novo Engine Co.
O. K. Clutch & Mchy. Co.
Orton & Steinbrenner Co.
Pawling & Harnischfeger Co.
Ransome Concrete Machy. Co.
Smith Co., T. L.
Standard Scale & Supply Co.
Stroudsburg Engine Works
Thomas Elevator Co.
Westinghouse El. & Mfg. Co.

Hoists, Hand
National Hoisting Engine Co.
Thomas Elevator Co.

Hoists, Headgate
Coffin Valve Co.
Coldwell-Wilcox Co.

Hoists, Pneumatic
Dake Engine Co.
Ingersoll-Rand Co.

Hoists, Rock
Schramm & Son, Chris. D.

Hooks, Hoist and Wire Ropes
American Steel & Wire Co.
Leschen & Sons Rope Co., A.
Wright Wire Co.

Hose
Edson Mfg. Co.

Hose, Metallic
American Metal Hose Co.
Penn. Flexible Metallic Tubing Co.

Hydrants
Eddy Valve Co.
Fox & Co., John
Kennedy Valve Mfg. Co.
Norwood Eng'g Co.
Pacific Tank & Pipe Co.
Pratt & Cady Co., Inc.
Rensselaer Valve Co.
Ross Valve Mfg. Co.
Wood Co., R. D.

Indicator Posts
Builders Iron Fdry.
Pratt & Cady Co., Inc.

Injectors
Jenkins Bros.

Ink Remover
Haberly Products Co.

Inserts, Concrete
Security Insert Co.
Trussed Con. Steel Co.

Instruments, Engineers'
(See Engineers' and Draftsmen's Instruments)

Ironwork, Architectural and Ornamental
(See also Structural Steel)
Berlin Construction Co.
Boston Bridge Works
Minneapolis St. & Mch. Co.
Phoenix Bridge Co.
Wisconsin Bridge & Ir. Co.

Jacks
Duff Mfg. Co.
McKiernan-Terry Drill Co.

Joint Filler, Paving
Barrett Co., The
Carey Co., Philip
Pioneer Asphalt Co.
Waring Underwood Co.

Joints, Expansion, Copper
Badger & Sons, E. B.
Carey Co., Philip

Joints, Expansion, Paving
Trussed Concrete Steel Co.
Waring-Underwood Co.

Joints, Flexible
Coldwell-Wilcox Co.

Kettles, Melting
(See Asphalt Plants and Tools; also Pipe Line Supplies)

Kilns, Drying
Riter-Conley Co.
Traylor Engr. & Mfg. Co.
Vulcan Iron Works, Wilkes-Barre, Pa.

Kilns, Lime
Riter-Conley Co.
Traylor Engr. & Mfg. Co.
Vulcan Iron Works, Wilkes-Barre, Pa.
Worthington Pump & Mchry. Corp.

Laboratories
(See Testing Laboratories)

Lamp Posts
Donaldson Iron Co.
Fox & Co., John

Lamps, Arc & Incandescent
General Electric Co.
Westinghouse El. & Mfg. Co.

Lath, Metal
Consolidated Expanded Metal Cos.
Corrugated Bar Co.
General Fireproofing Co.
North Western Expanded Metal Co.
Trussed Concrete Steel Co.

Lead Pencils
(See also Engineers' and Draftsmen's Instruments and Supplies)
Dixon Crucible Co.

Leadite
Leadite Co., Inc.

Lights, Portable
Carbic Mfg. Co.
Milburn Co., Alexander F.

Lime, Hydrated
Hydrated Lime Bureau
Natl. Lime Mfrs. Assn.

Loaders, Wagon
Bonney Supply Co.
Gifford-Wood Co.
Haiss Mfg. Co., Inc., Geo
Link Belt Co.
Sunbury Mfg. Co.

Locomotives
American Locomotive Co.
Bell Locomotive Works, Inc.
General Electric Co.
Porter Co., H. K.
Vulcan Iron Works, Wilkes-Barre, Pa.
Westinghouse El. & Mfg. Co.

Locomotives, Electric
American Locomotive Co.
Bell Locomotive Works, Inc.
General Electric Co.
Westinghouse El. & Mfg. Co.

Locomotives, Gasoline
Bell Locomotive Works, Inc.

Locomotives, Steam
American Locomotive Co.
Bell Locomotive Works, Inc.
Porter Co., H. K.
Vulcan Iron Works, Wilkes-Barre, Pa.

Locomotives, Industrial
American Locomotive Co.
Bell Locomotive Works, Inc.
Porter Co., H. K.
Vulcan Iron Works, Wilkes-Barre, Pa.

Logging Outfits
Clyde Iron Works
Lidgerwood Mfg. Co.
Parsons Co., The

Lubricants
Dixon Crucible Co., Jos.
Greene, Tweed & Co.
Texas Company, The

Equipment and Materials Sold by Advertisers in This Issue

Lumber
Associated Calcasieu Long Leaf Mills
Pearson & Ludascher Lumber Co.
West Coast Lumbermens Assn.

Machinery and Equipment, Second Hand
(See also advts. in Searchlight Section)
Buffalo Contractors Pl't Corp.

Machinery, Steam
Thew Automatic Shovel Co.

Manganese, Bronze
American Manganese Bronze Co.

Manhole Covers
(See also Castings, Iron)
Fox & Co., John
Lynchburg Foundry Co.

Marine Hardware and Equipment
Boston & Lockport Blk. Co.

Mechanical Rubber Goods
Jenkins Bros.

Metaline
Metaline Co., The

Metallic Doors and Sash
(See Window Frames, Fireproof)

Metal, Lath
Mitchell-Tappen Co.

Metals, Perforated
Chicago Perforating Co.

Meter Box Covers
American Cast Iron Pipe Co.
Buffalo Meter Co.
Builders Iron Foundry
Cast Iron Pipe Publ'y Bureau
Clow & Sons, Jas. B.
Lynchburg Fdry. Co.
Pittsburgh Meter Co.
Union Water Meter Co.
U. S. C. I. Pipe & Fdry. Co.

Meter Provers
Builders Iron Foundry
Hersey Mfg. Co.
Pittsburgh Meter Co.

Meters, Irrigation
Hydrometric Co.

Meters, Water, Oil and Gas
Buffalo Meter Co.
Builders Iron Foundry
General Electric Co.
Hersey Mfg. Co.
Neptune Meter Co.
Pittsburgh Meter Co.
Union Water Meter Co.
Simplex Valve & Meter Co.
Worthington Pump & Mchry. Co.

Mining Machinery
Allis-Chalmers Mfg. Co.
Ingersoll-Rand Co.
McKiernan-Terry Drill Co.
Sullivan Mchry. Co.
Thew Auto. Shovel Co.
Traylor Engr. & Mfg. Co.
Worthington Pump & Machy. Corp.

Mixers, Asphalt
Ransome Concrete Machy. Co.
Smith Co., T. L.
Worthington Pump & Mchry. Corp.

Mixers, Cement and Concrete
American Cement Machine Co.
Automatic Concrete Mixer Co.
Bond Co., Harold L.
Foote Concrete Mchry. Co.
Kent Machine Co.
Knickerbocker Co.
Koehring Machine Co.
Lansing-Co.
Lakewood Eng'g Co.
Municipal Engrg. & Contr. Co.
Oshkosh Mfg. Co.
Ransome Concrete Machy. Co.
Smith Co., T. L.
Standard Scale & Supply Co.
Waterloo Cement Mchry. Co.
Worthington Pump & Mchry. Corp.

Mixers, Grout
Ransome Concrete Machy. Co.

Mixers, Mortar
American Cement Machine Co.
Kent Machine Co.
Koehring Machine Co.
Lakewood Eng'g Co.
Lansing-Co.
Municipal Engrg. & Contr. Co.
Ransome Concrete Machy. Co.
Smith Co., T. L.
Waterloo Cement Mchry. Corp.

Molds, Pipe and Culvert
Blaw Steel Constr. Co.
Foote Concrete Mchry. Co.

Motors, Electric
General Electric Co.
Sturtevant Co., B. F.
Westinghouse Elec. & Mfg. Co.

Motor Trucks
Kissel Motor Car Co.
Phoenix Mfg. Co.
Watson Wagon Co.
White Co.

Nails, Wire and Cut
American Steel & Wire Co.
Larkin & Co., J. K.

Netting, Wire
American Steel & Wire Co.

Nozzles, Spray and Aerating
Morse & Son, A. & J.

Nuts
Larkin & Co., J. K.

Nuts, Clevis
American Bridge Co.
Merrill Bros.

Oil, Lubricating
Texas Company, The

Oil, Road
(See Road Oils)

Packing
Jenkins Bros.

Packing, Water-Pipe
Greene, Tweed & Co.
Leadite Co., Inc.

Paints and Metal Coatings
Barrett Co., The
Dixon Crucible Co., Jos.
Maritimo Coating Corp.
Minwax Co., Inc.
Pioneer Asphalt Co.
Toch Bros.

Paints, Asphalt
Pioneer Asphalt Co.

Paints, Steel Protective
(See Paints and Metal Coatings)

Pavements
Ayer & Lord Tie Co.
Barrett Co., The
Jennison-Wright Co.

Paving Blocks, Granite
Rockport Granite Co.

Paving Blocks, Wood
Ayer & Lord Tie Co.
Barber Asphalt Paving Co.
Barrett Co., The
Jennison-Wright Co.
South. Wood Preserv. Co.
Wyckoff Pipe & Creo. Co.

Paving Joint Filler
(See Joint Filler, Paving)

Penstocks
(See Steel Plate Construction; also Pipe Riveted Steel; also Pipe Wood)

Pile Driving
Rhodes & Manvel, Inc.

Pile Driving Machinery
Clyde Iron Works
Edson Mfg. Co.
Flory Mfg. Co., S.
Industrial Works
Lidgerwood Mfg. Co.
McKiernan-Terry Drill Co.
National Hoisting Engine Co.
Union Iron Works
Vulcan Iron Works

Pile, Shoes
Janney-Steinmetz Co.
Vulcan Iron Works, Chicago

Piles, Concrete
Foundation Co.
MacArthur Conc. P. & F. Co.
Raymond Con. Pile Co.
Smith, Hauser & MacIsaac, Inc.
Underpinning & Found. Co.

Piles, Creosoted
Barber Asphalt Paving Co.
Jennison-Wright Co.
Underpinning & Found. Co.
Wyckoff Pipe & Creo. Co.

Piles, Wood
Rhodes & Manvel, Inc.

Piling, Interlocking Steel
Carnegie Steel Co.
Lackawanna Steel Co.
Mitchell-Tappen Co.

Pipe, Cast Iron
American Cast Iron Pipe Co.
Cast Iron Pipe Pub'ly Bureau
Central Foundry Co.
Clow & Sons, James B.
Donaldson Iron Co.
Fox & Co., John
Glamorgan Pipe & Fdry. Co.
Larkin & Co., J. K.
Lynchburg Fdry. Co.
Massillon Iron & Steel Co.
Standard C. I. P. & Fdry. Co.
U. S. C. I. Pipe & Fdry. Co.
Warren Fdry. & Mach. Co.
Wood & Co., R. D.

Pipe Culverts
(See Culverts)

Pipe, Dredge
Machold & Riddell

Pipe Fittings
American Spiral Pipe Works
Donaldson Foundry Co.
Larkin & Co., J. K.
Lynchburg Foundry Co.
Warren Fdry. & Mach. Co.

Pipe, Flanged
Warren Fdry. & Mach. Co.

Pipe, Galvanized
Larkin & Co., J. K.

Pipe, Lap Welded
American Spiral Pipe Works

Pipe Line Supplies
Union Iron Works

Pipe, Lock Bar
East Jersey Pipe Co.

Pipe, Reinforced Concrete
Lock Joint Pipe Co.
Trussed Con. Steel Co.

Pipe, Riveted Steel
American Bridge Co.
Chicago B. & I. Works
Des Moines Bridge & Iron Co.
East Jersey Pipe Co.
Mitchell-Tappen Co.
Pittsburgh-Des Moines Stl. Co.
Riter-Conley Co.
Scaife & Sons, Wm. B.

Pipe, Segmental
Robinson Clay Products Co.

Pipe, Spiral Riveted
Marion Malleable Iron Works

Pipe, Steel
Graver Tank Works, Wm. B.
Larkin & Co., J. K.

Pipe, Vitrified Clay and Sewer
Robinson Clay Product Co.

Pipe, Wood
Michigan Pipe Co.
National Tank & Pipe Co.
Portland Wood Pipe Co.
Redwood Mfrs. Assn.
Standard Wood Pipe Co.
Washington Pipe & Fdry. Co.
Wyckoff & Son Co., A.
Wyckoff Pipe & Creo. Co.

Pipe, Wrought Iron
American Pipe & Cons. Co.

Equipment and Materials Sold by Advertisers in This Issue

Piping, Power Plant, Bends, Flanges, Fittings, Etc.
East Jersey Pipe Co.
Fox & Co., John
Kellogg & Co., M. W.

Plates, Steel
(See also Steel Plate Construction)
Carnegie Steel Co.
Chicago Bridge & Iron Works
Christopher & Simpson Iron Works
Lackawanna Steel Co.

Plates, Tin and Terne
Am. Sheet & Tin Plate Co.

Pneumatic Tools
(See Tools, Pneumatic)

Power Transmission Machinery
General Electric Co.
Hunt Co., C. W.
Westinghouse Elec. & Mfg. Co.

Pulleys
Dodge Sales & Eng'g Co.

Pulverizers
(See Crushers and Pulverizers)

Pumping Engines
(See Engines, High Duty Pumping)

Pumps, Air Lift
Worthington Pump & Machy. Corp.

Pumps, Boiler Feed
American Well Works, The
Cameron St. Pump Works
Dean Bros. Steam Pump Works
Worthington Pump & Machry. Corp.

Pumps, Centrifugal and Turbine
Allis-Chalmers Mfg. Co.
American Well Works, The
Cameron St. Pump Works
Deming Co.
Earle Gear & Machine Co.
Lawrence P. & E. Co.
Lawrence Machine Co.
Oshkosh Mfg. Co.
Pelton Water Wheel Co.
Platt Iron Works
Wood & Co., R. D.
Worthington Pump & Machry. Corp.

Pumps, Contractors'
American Well Works, The
Bond Co., Harold L.
Cameron Steam Pumps Co.
Earle Gear & Machine Co.
Edson Mfg. Co.
Natl. Transit Pump & Mach. Co.
Nye Steam Pump & Mchy. Co.
Schramm & Son, Chris. D.
Standard Scale & Supply Co.
Worthington Pump & Machy. Corp.

Pumps, Deep Well
American Well Works, The
Cameron St. Pump Works
Dean Bros. Steam Pump Wks.
Deming Co.
Earle Gear & Machine Co.
Keystone Driller Co.
Pelton Water Wheel Co.
Worthington Pump & Machry. Corp.

Pumps, Diaphragm
Bond Co., Harold L.
Boston & Lockport Blk. Co.
Cameron St. Pump Works
Deming Co.
Edson Mfg. Co.
Oshkosh Mfg. Co.

Pumps, Elevator
Worthington Pump & Machry. Corp.

Pumps, Fire
Worthington Pump & Machry. Corp.

Pumps, Gasoline, Portable
American Well Works, The
Bond Co., Harold L.
Edson Mfg. Co.
Schramm & Son, Chris. D.
Worthington Pump & Machry. Corp.

Pumps, Mine
American Well Works, The
Cameron St. Pump Works
Dean Bros. Steam Pump Wks.
Earle Gear & Machine Co.
Natl. Transit Pump & Mach. Co.
Nye Steam Pump & Mchy. Co.
Worthington Pump & Machry. Corp.

Pumps, Portable
Schramm & Son, Chris. D.

Pumps, Power
American Well Works, The
Cameron Steam Pump Co.
Dean Bros. Steam Pump Wks.
Natl. Transit Pump & Mach. Co.
Platt Iron Works
Worthington Pump & Machry. Corp.

Pumps, Sand
Nye Steam Pump & Mchy. Co.
Traylor Eng'g & Mfg. Co.
Worthington Pump & Machry. Corp.

Pumps, Steam
American Well Works, The
Cameron St. Pump Works
Dean Bros. Steam Pump Wks.
Deming Co.
Natl. Transit Pump & Mach. Co.
Nye Steam Pump & Mchy. Co.
Platt Iron Works
Worthington Pump & Machry. Corp.

Pumps, Trench
Oshkosh Mfg. Co.
Worthington Pump & Machry. Corp.

Pumps, Underwriters' Fire
American Well Works, The
Worthington Pump & Mchry. Corp.

Pumps, Vacuum
Cameron St. Pump Works
Nye Steam Pump & Mchy. Co.
Worthington Pump & Machy. Corp.

Pumps, Water Works
American Well Works, The
Cameron Steam Pumps Co.
Earle Gear & Machine Co.
Pelton Water Wheel Co.
Worthington Pump & Mchry. Corp.

Pumps, Wind Mill
Deming Co.

Quarry Machinery
Bond Co., Harold L.
Ingersoll-Rand Co.
Schaefer Mfg. Co.
Sullivan Machry. Co.
Worthington Pump & Mchry. Corp.

Rail and Rail Joints, Fastening and Specialties
Carnegie Steel Co.
Lackawanna Steel Co.
Orenstein-Arthur Koppel Co.
Union Iron Works

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Lakewood Eng'g Co.
Orenstein-Arthur Koppel Co.

Rams, Hydraulic
Deming Co.

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Amer. Steel & Wire Co.
American System of Reinforcing
Brown Hoisting Machry. Co.
Concrete Eng'g Co.
Concrete Steel Co.
Consolidated Expanded Metal Cos.
Corrugated Bar Co.
Electric Welding Co.
General Fireproofing Co.
Laclede Steel Co.
Mitchell-Tappen Co.
North Western Expanded Metal Co.
Trussed Con. Steel Co.
Wright Wire Co.

Reservoirs, Aerating
Spray Engineering Co.

River and Harbor Work
Atlantic, Gulf & Pacific Co.
Raymond Concr. Pile Co.
Rhodes & Manvel, Inc.

Riveters, Pneumatic
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Riveting Machines
Allen, John F.

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Road Machinery
Austin Mfg. Co.
Austin Western Rd. Mchy. Co.
Baker Mfg. Co.
Buffalo-Springfield Roller Co.
Erie Machine Shops
Keystone Driller Co.
Thew Automatic Shovel Co.
Western Wheeled Scraper Co.

Road Oils and Preservatives
Barrett Co., The
Jennison-Wright Co.

Rollers, Road
Austin Mfg. Co.
Austin-Western Rd. Machry. Co.
Buffalo-Springfield Roller Co.
Erie Machine Shops

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Amer. Cement Tile Mfg. Co.
Barrett Co., The
Ludowici-Celadon Co.
Texas Company, The
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Roofing, Gravel
Barrett Co., The

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Leschen & Sons Rope Co., A.
Plymouth Cordage Co.
Waterbury Co.

Rope, Wire
Amer. Steel & Wire Co.
Leschen & Sons Rope Co., A.
Waterbury Co.
Wright Wire Co.

Rope, Wire, Transmission, Hoisting or Haulage
Plymouth Cordage Co.
Roebling's Sons Co., J. A.

Rules and Tapes
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Ainsworth & Sons, Wm.
Dietzgen Co., Eugene
Keuffel & Esser
Kolesch & Co.
Lufkin Rule Co.

Sand and Gravel Washers
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Solar Metal Products Co.

Saw Rigs
Insley Mfg. Co.
Oshkosh Mfg. Co.
Schaefer Mfg. Co.
Worthington Pump & Machry. Corp.

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School and Colleges
Clarkson School of Tech.
Lafayette College
New York University
Norwich University
Ohio Northern University
Penn Military College
Polytechnic Inst. of Brooklyn
Rensselaer Polytechnic Institute
Sheffield Scientific School
University of Penna.

Scoops, Firing and Charging
Wyoming Shovel Works

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Brown Hoisting Machy. Co
Clyde Iron Works
Economy Exc. Co.
Hayward Co.
Lansing-Co.
Lidgerwood Mfg. Co.
Monighan Mach. Co.
Sauerman Bros.

Scrapers, Graders, Plows, Etc.
(See also Road Machinery)
Austin Mfg. Co.
Austin Western Rd. Mchy. Co.
Baker Mfg. Co.
Lansing-Co.
Western Wheeled Scraper Co.

Screens, Sand, Gravel, Coal and Water
Austin Mfg. Co.
Austin Western Rd. Mchy. Co.
Chicago Perforating Co.
Excavating & Screening Mchry. Co.
Link Belt Co.
Traylor Engr. & Mfg. Co.
Union Iron Works
Raymond Bros. I. P. Co.
Universal Road Machy. Co.
Worthington Pump & Mchry. Corp.

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Raymond Bros. I. P. Co.

Sewage Disposal
General Filtration Co.

Sewer Cleaning Machinery
Turbine Sewer Mach. Renov. Co.

Sewer Rods
Turbine Sewer Renov. Mach. Co.

Sheets, Galvanized
Am. Sheet & Tin Plate Co.
Stark Rolling Mill Co.

Sheets, Iron and Steel
Am. Sheet & Tin Plate Co.
Lackawanna Steel Co.

Shovels, Concrete
Wyoming Shovel Works

Shovels, Contractors'
Wyoming Shovel Works

Shovels, Moulders'
Wyoming Shovel Works

Shovels, Steam
American Clay Machry. Co.
Ball Engine Co.
Browning Company
Erie Steam Shovel Co.
Keystone Driller Co.
Marion Steam Shovel Co.
Osgood Co.
Thew Auto. Shovel Co.

Sidewalk Lights
Bayley Structural Iron Co.

Sluice Gates
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Smokestacks
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Spades, Concrete
Wyoming Shovel Works

Spikes
Larkin & Co., J. K.

Spray Nozzles
Spray Engineering Co.

Spreader Cars
Western Wheeled Scraper Co.

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Standpipe, Tanks and Towers
American Bridge Co.
Chicago Br. & Ir. Works
Christopher & Simpson Iron Works
Des Moines Bridge & Iron Co.
Graver Tank Works, Wm.
National Tank & Pipe Co.
Petroleum Iron Works
Pittsburgh-Des Moines St. Co.
Riter-Conley Co.
Tippett & Wood
Walsh's Holyoke St. B. Wks.

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Powell Co., Wm.

Steel Plate Construction
American Bridge Co.
Berlin Construction Co.
Blaw Steel Constr. Co.
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Christopher & Simpson Iron Works
Coatesville Boiler & Tank Works
East Jersey Pipe Co.
Graver Tank Works, Wm.
Hydraulic Pressed Steel Co.
Mitchell-Tappen Co.
Petroleum Iron Works
Riter-Conley Co.
Tippett & Wood
Traylor Engr. & Mfg. Co.
Walsh's Holyoke St. B. Wks.

Stokers, Mechanical
Babcock & Wilcox Co.

Stone Skips
Insley Mfg. Co.
Lakewood Engineering Co.

Storage Yards
Industrial Service Co.

Strand, Common and Special
Roebling's Sons, J. A.

Street Sprinklers and Wagons
Austin Mfg. Co.
Austin Western Rd. Mchy. Co.

Structural Steel
American Bridge Co.
Bayley Structural Iron Co.
Berlin Construction Co.
Bethlehem Steel Bridge Corp.
Blaw Steel Constr. Co.
Boston Bridge Works
Carnegie Steel Co.
Des Moines Bridge & Iron Co.
Eastern Br. & Struc. Co.
Eichleay, John, Jr., Co.
Kenwood Bridge Co.
King Bridge Co.
Lackawanna Bridge Co.
Lackawanna Steel Co.
Minneapolis St. & M. Co.
Mitchell-Tappen Co.
Morava Construction Co.
Phoenix Bridge Co.
Pittsburgh-Des Moines St. Co.
Riter-Conley Co.
Scaife & Sons, Wm. B.
Shoemaker & Co., Lewis F.
Terry & Tench Co.
Tippett & Wood
Wisconsin Br. & Ir. Co.
Worden-Allen Co.

Submarine Work
Foundation Co.
Smith, Hauser & MacIsaac, Inc.

Superheaters
Babcock & Wilcox
Power Specialty Co.

Switchboards
General Electric Co.
Westinghouse Elec. & Mfg. Co.

Tampers, Power
Pawling & Harnischfeger Co.

Tanks, Air Compressor
Bartlett & Snow Co., C. O.
East Jersey Pipe Co.
Riter-Conley Co.
Scaife & Sons, Wm. B.
Tippett & Wood

Tanks, Creosoting
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Tanks, Gas Pressure
Graver Tank Works, Wm.
Scaife & Sons, Wm. B.

Tanks, Wood
Portland Wood Pipe Co.

Tar
Barrett Co., The

Telegraph & Telephone Wire
Roebling's Sons Co., J. A.

Testing Laboratories
Allentown Testing Lab.
Chicago Paving Lab.
Fuller Engineering Co.
Gulick Henderson Co.
Hill, Nicholas S.
Hunt & Co., Robert W.
Lehigh Valley Testing Lab.
Pittsburgh Testing Lab.
Underwriters' Labs., Inc.

Thermometers
Taylor Instrument Cos.

Ties, Creosoted
Jennison-Wright Co.
Wyckoff Pipe & Creo. Co.

Ties, Steel
Carnegie Steel Co.

Tile, Terra Cotta
Ludowici-Celadon Co.

Tools, Pneumatic
Ingersoll-Rand Co.

Towers and Tanks
(See Standpipes, Tanks and Towers)

Towers, Transmission
Blaw Steel Constr. Co.
Lakewood Engineering Co.
Riter-Conley Mfg. Co.

Tracing Cloth
National Tracing Cloth Co.

Traction Engines
Minneapolis Steel & Mchy. Co.
Phoenix Mfg. Co.
Russell Grader Mfg. Co.

Tractors
Phoenix Mfg. Co.

Trailers
Electric Wheel Co.
Watson Wagon Co.

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Aloe Co., A. S.
Beckman Co., L.
Brandis & Sons' Mfg. Co.
Buff & Buff Mfg. Co.
Dietzgen Co., Eugene
Gurley, W. & L. E.
Keuffel & Esser Co.
Kolesch & Co.
White & Co., Inc., David

Traps, Steam
Jenkins Bros.
Pratt & Cady Co., Inc.
Sturtevant Co., B. F.

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Austin Drainage Ex. Co., F. C.
Ball Engine Co.
Carson Trench Mach. Co.
Erie Steam Shovel Co.
Hayward Co.
Keystone Driller Co.
Municipal Eng'g & Contracting Co.
Osgood Co.
Parsons Co., The
Pawling & Harnischfeger Co.
Rochester Excavating Mchy. Co.
Thew Auto Shovel Co.

Trucks, Motor
Kissel Motor Car Co.
Phoenix Mfg. Co.
Watson Wagon Co.
White Co.

Tunnel Lining Plates
Blaw Steel Constr. Co.
Hydraulic Pressed Steel Co.

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Turbines, Steam
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Sturtevant Co., B. F.

Turnbuckles
American Bridge Co.
Lansing-Co.
Merrill Bros.

Turntables
American Bridge Co.
Boston Bridge Works, Inc.
Chicago Bridge & Iron Works
Lakewood Engineering Co.
Orenstein-Arthur Koppel Co.
Phoenix Bridge Co.

Typewriters
Blickensderfer Mfg. Co.

Underpinning
Foundation Co.
Smith, Hauser & MacIsaac, Inc.
Substructure Co.
Underpinning & Foundation Co.

Unloaders
Bonney Supply Co.
Sunbury Mfg. Co.

Valve Stems
American Manganese Bronze Co.

Valves, Air
Coffin Valve Co.
Jenkins Bros.
Ross Valve Mfg. Co.
Simplex Valve & Meter Co.

Valves, Angle, Check, Gate and Globe
Coffin Valve Co.
Coldwell-Wilcox Co.
Eddy Valve Co.
Jenkins Bros.
Pratt & Cady Co., Inc.
Simplex Valve & Meter Co.
Wood & Co., R. D.

Valves, Blow-Off
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Coldwell-Wilcox Co.
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Valves, Fitting
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Valves, Foot
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Wood & Co., R. D.

Valves, Pump
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Valves, Regulating
Jenkins Bros.
Simplex Valve & Meter Co.

Valves, Safety
Jenkins Bros.
Simplex Valve & Meter Co.

Valves, Sluice
Coffin Valve Co.
Coldwell-Wilcox Co.
Eddy Valve Co.
Rensselaer Valve Co.
Ross Valve Mfg. Co.

Ventilating Apparatus
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Ventilators
Badger & Sons Co., E. B.

Wagons, Asphalt
Bain Wagon Works
Watson Wagon Co.

Wagons, Dumping
Austin Mfg. Co.
Austin Western Rd. Mchy. Co.
Bain Wagon Works
Baker Mfg. Co.
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Western Wheeled Scraper Co.

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Water Softeners
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International Filter Co.
N. Y. Cont. Jewell Filt. Co.
Pittsburgh Filter Mfg. Co.
Scaife & Sons, Wm. B.
Wallace & Tiernan Co., Inc.

Water Storage Recorders
Leupold, Voelpel & Co.

Water Sterilization
Electro Bleaching Gas Co.
Penn. Salt Co.
Pittsburgh Filter Mfg. Co.
Wallace & Tiernan Co., Inc.

Waterproofing
Anti-Hydro Waterproofing Co.
Barrett Co., The
General Fireproofing Co.
Minwax Co., Inc.
Pioneer Asphalt Co.
Toch Bros.
Trussed Con. Steel Co.

Water Wheels, Turbine and Impulse
Allis-Chalmers Mfg. Co.
General Electric Co.
Pelton Water Wheel Co.
Platt Iron Works
Smith Co., S. Morgan
Wood & Co., R. D.

Water Works Supplies, General
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Coldwell-Wilcox Co.

Welding Apparatus
Davis-Bournonville Co.
General Electric Co.
Imperial Brass Co.
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Milburn Co., The Alexander
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Vulcan Process Co.

Well Drilling Machinery
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Dake Engine Co.
Lakewood Engineering Co.

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Trussed Con. Steel Co.

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Roebling's Sons Co., J. A.

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New Advertisements (not changes in copy) received on Wednesday can usually appear in the issue of that week. **If Proofs Are Required** before printing, copy must be in our hands two weeks in advance of the date of publication. The paper is dated Saturday but is out on Friday.

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Strong to resist the force of wave or storm.

Strong to withstand disintegrating assaults of time and the elements.

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A translucent ventilated wall of shining glass and steel, sturdy in construction and attractive in appearance.

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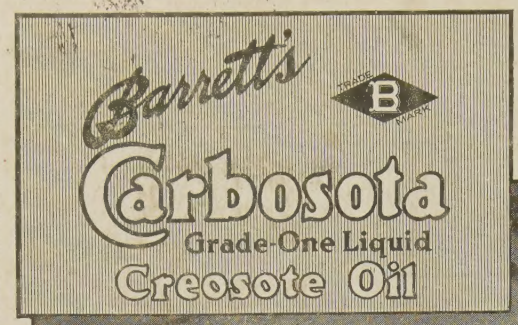

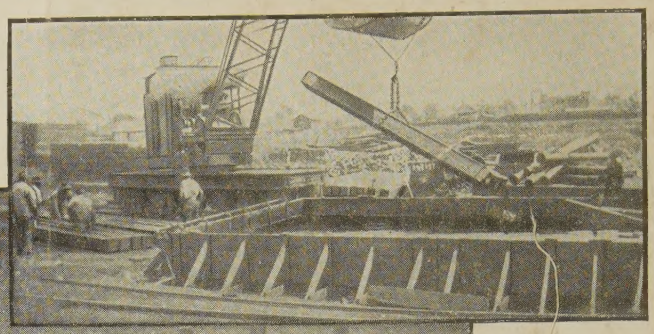

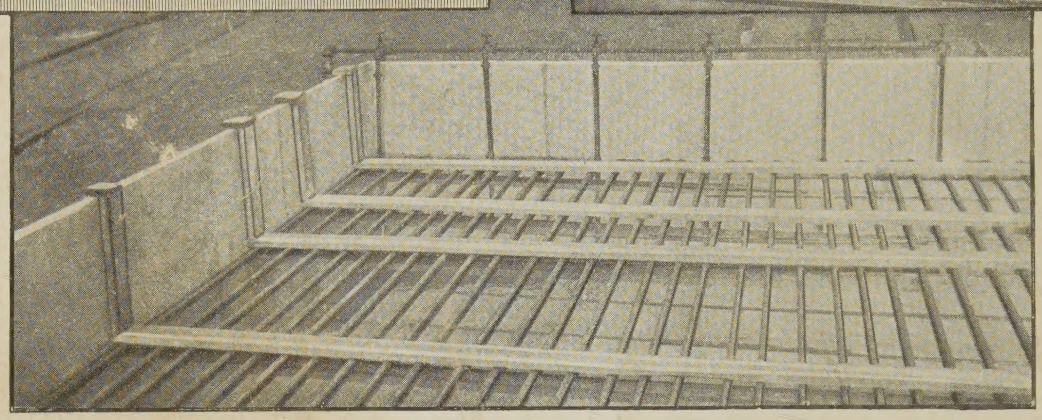

Upper illustration shows method of charging and unloading treating-tank.

Lower illustration shows a temporary open treating-tank, constructed of wood lined with galvanized sheet iron, soldered at all joints; size 20 ft. x 25 ft. x 3 ft. deep. Note steam pipes for heating.

Wood Preservation is always available by using the Open-Tank System

THE Open-Tank System of creosoting wood is not a substitute for any other process, nor is it a makeshift. Within its limitations, it is the *best method.*

It is particularly suitable for the preservative treatment of *all* structural wood which, when in place, *is not subject to severe mechanical abrasion.*

It is adaptable to all conditions, is economical and effective.

The cost is reasonable and warranted in each case where the mechanical life of the structure is greater than the natural life of the wood.

The illustrations herewith show a temporary plant, and its operation during the treatment of over one-quarter million feet, board measure, of 12 x 12 inch and 6 x 12 inch timbers, used as floor-framing in an industrial building in which conditions are favorable to the development of decay.

An average absorption was obtained of approximately 10 gallons of CARBOSOTA Creosote Oil per 100 square feet of surface.

The theory of the Open-Tank System is that in the hot treatment the heat of the preservative expands and expels a portion of the air and water contained in the wood-cells. Then upon immersion in the cold oil, or when subjected to the change in temperature caused by the cooling of the creosote, there is a partial contraction and condensation of the air and water that remain, resulting in a slight vacuum within the wood. This, aided by atmospheric pressure combined with capillary action between the wood-cells and the preservative, achieves the actual impregnation.

Barrett's CARBOSOTA — *Grade-One Liquid Creosote Oil* is derived from pure coal tar, and refined especially for the Brush Method and the Open-Tank System of treatment. It meets all official specifications, and is recognized as the Universal Standard by all authorities. Write for helpful booklet, "Long Life for Wood."

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